

77780



SEQUENCE LISTING

RECEIVED  
JAN 17 2002  
TECH CENTER 1600/2900

<110> Stanton, Jr., Vincent P.

<120> GENE SEQUENCE VARIANCE IN GENES RELATED  
TO FOLATE METABOLISM HAVING UTILITY IN DETERMINING THE  
TREATMENT OF DISEASE

<130> 11926-015001

<140> 09/658,659

<141> 2000-09-08

<150> 09/596,033

<151> 2000-06-15

<150> 09/357,743

<151> 1999-07-20

<150> 09/357,024

<151> 1999-07-19

<150> 60/093,484

<151> 1998-07-20

<160> 16

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 7224

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 194, 3209

<223> n = c or g

<221> misc\_feature

<222> 1136, 1334, 3150, 5551, 5934

<223> n = a or g

<221> misc\_feature

<222> 284, 1252, 1699, 5573, 5659, 5678, 5874

<223> n = c or t

<221> misc\_feature

<222> 3207

<223> n = g or t

<221> misc\_feature

<222> 5444

<223> n = c or a

&lt;400&gt; 1

aaaggttcta	aatgtctgcg	gggctcagag	cgggatgtca	cgtcgtcctc	ctctgccggg	60
tttctcttgg	gtccttttcc	gtgccgtccc	gcgactccgc	ctctggccgc	gcgtgtctgg	120
ctgctaggcc	gacaccaagg	actggccggg	taccggggaa	gaaagcacgt	gctccagcag	180
ttgccgcgcc	cagncccgag	agaggcccta	gggcgctgcg	ggctttcggg	gtccgcagtc	240
cccccgcgac	gcgagccaac	gggaggcgtc	aaaagaccgc	ggcnttgtgt	ggcaggctcg	300
cctggcgctg	getggcgctg	cccttggccg	tgcacactg	tggagagcac	gtcttctctg	360
cgcgcctc	tgcgcaagga	ggagactcga	caacatgtca	ccgcgcctcc	aagacctgtc	420
gcaacccgaa	ggtctgaaga	aaacctgtcg	ggatgagatc	aatgccattc	tgcagaagag	480
gattatggtg	ctggatggag	ggatggggac	catgatccag	cgggagaagc	taaacgaaga	540
acacttccga	ggtcaggaat	ttaaagatca	tgcagggccg	ctgaaaggca	acaatgacat	600
tttaagtata	actcagcctg	atgtcattta	ccaaatccat	aagggaatact	tgctggctgg	660
ggcagatata	attgaaacaa	atacttttag	cagcactagt	attgcccaag	ctgactatgg	720
ccttgaacac	ttggcctacc	ggatgaacat	gtgctctgca	ggagtggcca	gaaaagctgc	780
cgaggaggta	actctccaga	caggaattaa	gaggtttgtg	gcaggggctc	tgggtccgac	840
taataagaca	ctctctgtgt	ccccatctgt	ggaaaggccg	gattatagga	acatcacatt	900
tgatgagctt	gttgaagcat	accaagagca	ggccaaagga	cttctggatg	gcggggttga	960
tatcttactc	attgaaacta	tttttgatac	tgccaatgcc	aaggcagcct	tgtttgcact	1020
ccaaaatctt	tttgaggaga	aatatgctcc	cgggcctatc	tttatttcag	ggacgatcgt	1080
tgataaaagt	gggcggactc	tttccggaca	gacaggagag	ggatttgtca	tcagcntgtc	1140
tcattggagaa	ccactctgca	ttggattaaa	ttgtgctttg	ggtgcagctg	aaatgagacc	1200
ttttattgaa	ataattggaa	aatgtacaac	agcctatgtc	ctctgttatc	cnaatgcagg	1260
tcttcccaac	acctttgggtg	actatgatga	aacgccttct	atgatggcca	agcacctaaa	1320
ggattttgct	atgnatggct	tggctcaatat	agttggagga	tgctgtgggt	caacaccaga	1380
tcatatcagg	gaaattgctg	aagctgtgaa	aaattgttaag	cctagagttc	cacctgccac	1440
tgcctttgaa	ggacatatgt	tactgtctgg	tctagagccc	ttcaggattg	gaccgtacac	1500
caactttggt	aacattggag	agcgtgttaa	tgttgaggga	tcaagggaagt	ttgctaaact	1560
catcatggca	ggaaactatg	aagaagcctt	gtgtgttgcc	aaagtgcagg	tggaaatggg	1620
agcccagggtg	ttggatgtca	acatggatga	tggcatgcta	gatggtccaa	gtgcaatgac	1680
cagattttgc	aacttaatng	cttccgagcc	agacatcgca	aaggtaacct	tgtgcatcga	1740
ctcctccaat	tttgcctgtga	ttgaagctgg	gttaaagtgc	tgccaaggga	agtgctattgt	1800
caatagcatt	agtctgaagg	aaggagagga	cgacttcttg	gagaaggcca	ggaagattaa	1860
aaagtatgga	gctgctatgg	tggctcatggc	ttttgatgaa	gaaggacagg	caacagaaac	1920
agacacaaaa	atcagagtgt	gcacccgggc	ctaccatctg	cttgtgaaaa	aactgggctt	1980
taatccaaat	gacattattt	ttgaccttaa	tatcctaacc	attggggactg	gaatggagga	2040
acacaacttg	tatgccatta	attttatcca	tgcaacaaaa	gtcattaaag	aaacattacc	2100
tggagccaga	ataagtggag	gtctttccaa	cttgtccttc	tccttccgag	gaatggaagc	2160
cattcgagaa	gcaatgcatg	gggttttcc	ttaccatgca	atcaagtctg	gcatggacat	2220
ggggatagtg	aatgctggaa	acctccctgt	gtatgatgat	atccataagg	aacttctgca	2280
gctctgtgaa	gatctcatct	ggaataaaga	ccctgaggcc	actgagaagc	tcttacgtta	2340
tgcccagact	caaggcacag	gagggaaaga	agtcattcag	actgatgagt	ggagaaatgg	2400
ccctgtcgaa	gaacgccttg	agtatgccct	tgtgaagggc	attgaaaaac	atattattga	2460
ggatactgag	gaagccaggt	taaaccaaaa	aaaatatccc	cgacctctca	atataattga	2520
aggaccctcg	atgaatggaa	tgaaaattgt	tggatgatctt	tttggagctg	gaaaaatggt	2580
tctacctcag	gttataaagt	cagcccggtg	tatgaagaag	gctgttgccc	accttatccc	2640
tttcatggaa	aaagaaagag	aagaaaaccag	agtgcctaac	ggcacagtag	aagaagagga	2700
cccttaccag	ggcaccatcg	tgctggccac	tgttaaaggc	gacgtgcacg	acataggcaa	2760
gaacatagtt	ggagtatgcc	ttggetgcaa	taatttccga	gttattgatt	taggagtcac	2820
gactccatgt	gataagatac	tgaaagctgc	tcttgaccac	aaagcagata	taattggcct	2880
gtcaggactc	atcactcctt	ccctggatga	aatgattttt	gttgccaagg	aaatggagag	2940
attagctata	aggattccat	tgttgattgg	aggagcaacc	acttcaaaaa	cccacacagc	3000
agttaaaata	gctccgagat	acagtgcacc	tgtaatccat	gtcctggacg	cgtccaagag	3060
tgtgggtggtg	tgttcccagc	tgttagatga	aaatctaaag	gatgaatact	ttgaggaaat	3120
catggaagaa	tatgaagata	ttagacaggn	ccattatgag	tctctcaagg	agaggagata	3180
cttaccctta	agtcaagcca	gaaaaantng	tttccaaatg	gattggctgt	ctgaacctca	3240
cccagtgaag	cccaggttta	ttgggaccca	ggctcttgaa	gactatgacc	tgcagaagct	3300
ggtggactac	attgactgga	agcctttctt	tgatgtctgg	cagctccggg	gcaagtaccc	3360

gaatcgaggc	tttcccaaga	tattttaacga	caaaacagta	ggtggagagg	ccaggaaggt	3420
ctacgatgat	gcccacaata	tgttgaacac	actgattagt	caaaagaaac	tccgggcccg	3480
gggtgtgggt	gggttctggc	cagcacagag	tatccaagac	gacattcacc	tgtacgcgga	3540
ggctgctgtg	ccccaggctg	cagagcccat	agccaccttc	tatgggttaa	ggcaacaggc	3600
tgagaaggac	tctgccagca	cggagccata	ctactgcctc	tcagacttca	tcgctccctt	3660
gcattctggc	atccgtgact	acctgggcct	gtttgccgtt	gectgctttg	gggtagaaga	3720
gctgagcaag	gcctatgagg	atgatgggtga	cgactacagc	agcatcatgg	tcaaggcgct	3780
gggggaccgg	ctggcagagg	cctttgcaga	agagctccat	gaaagagttc	gccgagaact	3840
gtgggcctac	tgtggcagtg	agcagctgga	cgctgcagac	ctgctgcaggc	tgcggtacaa	3900
gggcatccgc	ccggctcctg	gctacccocag	ccagcccgac	cacaccgaga	agctcaccat	3960
gtggagactt	gcagacatcg	agcagtctac	aggcattagg	ttaacagaat	cattagcaat	4020
ggcacctgct	tcagcagtct	caggccctcta	cttctccaat	ttgaagtcca	aatattttgc	4080
tgtggggaaag	atttccaagg	atcagggttga	ggattatgca	ttgaggaaga	acatatctgt	4140
ggctgagggt	gagaaatggc	ttggacccat	tttgggatat	gatacagact	aacttttttt	4200
ttttttgctt	tttttattct	tgatgatcct	caaggaaata	caacctaggg	tgccttaaaa	4260
ataacaacaa	caaaaaacct	gtgtgcactc	ggttgacact	tccctgcttc	tggttttcga	4320
agactatttta	gtggaaacct	gtagaggagc	agggctcttc	tgcagtgcct	ggaaaaacagg	4380
cgctgttttt	ttgggaacct	gcgtgaagag	cagtgaagcag	ggttcctgtg	gtttccctgg	4440
tccctctgag	atggggacag	actgaagaca	gaggtcgttt	gatttcaaag	caagtcaacc	4500
tgtttttttc	tgtttttaca	gtggaatcta	ggaggccact	tagtctctct	tttttccctc	4560
tagaagaaaa	gcctgaaact	gagttgaata	gagaagtgtg	accctgtgac	aaaatgatac	4620
tgtgagaaat	ggggcatttt	aatctaagtg	gttataacag	tggattctga	cggggaaggt	4680
gtagctctgt	tctcttcgga	agacctcggt	ttctaaaggc	tggactaaat	ggctgcagaa	4740
ctcccttttg	caaaaggcat	gcgtccactg	cttgcttgct	agaaacactg	aagccatttg	4800
cccagtggtg	gtcaagcagc	catgctttct	gggcattttc	gtcctcccat	aatttcatat	4860
ttccgtaccc	ctgaggaaac	aaaaaggaaa	tgaggagaga	aagttactgt	taagggtggg	4920
taacattttt	tttgttttgt	tttggttttg	tttttttttt	tttgagacag	agtctggctc	4980
tgtcgcgccag	gctggagtg	agggggcgca	tctcggtcca	tagcaagctc	cgctcctgg	5040
gttccatgcca	ttctcctgoc	tcagcctcca	gagtagctgg	gactacaggt	gcccgccacc	5100
acaccggct	aattttttgt	gttttttaca	aatacaaaaa	agtagagaca	ggatttccact	5160
gtgttagcca	ggatgggtct	gatctcccga	cctcgtgatc	tgcccacctc	agcctcccaa	5220
aatgctggga	ttacaggcgt	gagccaccga	gcctggccgg	ttacatctct	ttaatgtgtt	5280
ccaggattga	gcaggttctc	agctgggctc	tgatatcccg	tgcggagttg	gacaagtggg	5340
cagcataaag	tcactcattt	cttaccattt	tattcccttc	aattctcaat	atattcagta	5400
atgaagaatg	gtgccaccac	tcaagcaaca	agcctcaaac	tcancatgt	catctttttc	5460
ttggatgatt	gcagttattt	caaaaatttg	catgcaaaat	atacactcat	cctacttcaa	5520
gatggtggtg	gcaatagtca	ggagaaggta	ncattggagt	cctggtttga	ttngaaggat	5580
gaagacgaag	aagcaaggga	ggaacaaatg	aagaaccatc	tttgttcatg	aataggaata	5640
ttcaagatta	taaagggtanc	aggtctccta	aaattganct	atggatttaa	taccattttc	5700
aatggaaatt	ccaacagatt	ttattgaatg	aaacaagcag	gtgtttatat	ggagtagcaa	5760
aggacttaaa	attaccaaat	gcttctaaat	atgaaggaga	ggttggggac	acgcacccta	5820
tgtgatacca	agttttattg	tcaagacagt	gtcatgggtc	agaggtaggc	attntgagca	5880
ggggaacaaa	ataagggcct	agaaactcac	cctgcatat	gttgaccttt	gcanaatgac	5940
ctgggtgacat	ggcaagtcag	tggggacagg	aaggaccact	ccctaagtaa	tcccagaaca	6000
atggctattc	atgtgggaaa	aaaagaaatt	ttactttctc	tcaccttacc	tgggtgataag	6060
ttccaaatat	gttaagggtc	ttatacaaaa	aagcaaaaat	tgtcagtgtt	tggatgaaaa	6120
aagccttagg	gcaggaaaga	atctcttgag	acataaagta	gtaatcataa	aggacaagat	6180
ggttaagtca	attctgttaa	aactcaaggc	ttatatthaag	caaacacttg	aagtgagaag	6240
atgatccaca	acttgagaag	acattttata	tacaaataac	tgatgaagga	ttcataatca	6300
caaatataga	gaattcctat	ttaaaaaaat	agaaaaatag	tgaagactac	acaagaggaa	6360
atagggtctt	taaataaata	gatgttctgt	agcattgggtc	agggaaatat	gaattaggac	6420
cacaatgaga	ttccattttt	tatccataag	atltgcaaag	gttgggtctg	acagtaaccag	6480
ttgttagatc	tgtagggact	tgtacaacat	tgtggatgtg	ttaaacaggca	ccactgcttt	6540
aaaaaacaat	tatcccttac	agacttgaac	atltgcagac	cttatgatct	tgttccaac	6600
tcccacctgt	atgtccagca	aactcttgca	tgtggccact	aggaggaatg	tgtagaatg	6660
ttcatagtta	catattttata	atagttaata	actggaaaaa	gtgaaatgta	tgtctgtcta	6720
caggaaaata	ggtgaataat	tagatatatg	tattcattct	acgggatatt	attcagtagt	6780

ggaaatgagt	gaactacagc	tatacctcac	aataagaatg	aatcccagaa	aatattaaagg	5840
aaaaaaacaa	gtttgaagag	accacatggg	gcgtactatt	tttattgagc	ccaaaaacaa	5900
gcaaaaacaa	agaatatgta	gtctaagcat	acgtatacaa	taaaactatg	ctattaaaaa	5960
aaaaggtaac	tgataaacca	aaattgagca	tagtaattac	ccacagaagg	aggaagtggg	7020
agggacagga	gcacataggt	agatgccaa	ttatgcagct	gttctgggtc	ctcccggtag	7080
gcttacaagt	gtttactata	tgctattaat	acattatact	ttataactaa	tagataacag	7140
ttttttacat	attaaatatg	ttctacttaa	atatattata	aaaaataaag	gcaaagtggg	7200
atgataacct	aaaaaaaaaa	aaaa				7224

&lt;210&gt; 2

&lt;211&gt; 6972

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 3434, 4313, 5255, 5507, 5810, 6128, 6626, 6686

&lt;223&gt; n = c or t

&lt;221&gt; misc\_feature

&lt;222&gt; 4799, 5455

&lt;223&gt; n = a or g

&lt;400&gt; 2

cgcccccgcc	tctgagctcc	cttcccatgg	cggccctagt	gttggaggac	gggtcggtcc	60
tgccggggcca	gccctttggg	gccgcctgt	cgactgccgg	ggaagtgggtg	tttcaaaccg	120
gcatgggtcgg	ctaccccgag	gccctcactg	atccctccta	caaggcacag	atcttagtgc	180
tcacctatcc	tctgatcggc	aactatggca	tccccccaga	tgaaatggat	gagttcgggtc	240
tctgcaagtg	gtttgaaatcc	tcgggcatcc	acgtagcagc	actggtagtg	ggagagtgc	300
gtcctactcc	cagccactgg	agtgccaccc	gcacctgca	tgagtggctg	cagcagcatg	360
gcatccctgg	cttgcaagga	gtagacactc	gggagctgac	caagaagtgt	cgggaacagg	420
gggtctctgct	ggggaagctg	gtccagaatg	gaacagaacc	ttcatccctg	ccattcttgg	480
accccaatgc	ccgccccctg	gtaccagagg	tctccattaa	gactccacgg	gtattcaata	540
caggggggtgc	ccctcggatc	cttgctttgg	actgtggcct	caagtataat	cagatccgat	600
gcctctgcca	gcgtggggct	gaggtcactg	tggtacccctg	ggaccatgca	ctagacagcc	660
aagagtatga	gggtctcttc	ttaagtaatg	ggcctgggtga	ccctgcctcc	tatcccagtg	720
tcgtatccac	actgagccgt	gttttatctg	agcctaatacc	ccgacctgtc	tttgggatct	780
gcctggggaca	ccagctattg	gccttagcca	ttggggccaa	gacttacaag	atgagatatg	840
ggaaccgagg	ccataaccag	ccctgcttgt	tggtgggctc	tgggcgctgc	tttctgacat	900
cccagaacca	tgggtttgct	gtggagacag	actcactgcc	agcagactgg	gctcctctct	960
tcaccaacgc	caatgatggg	tccaatgaag	gcattgtgca	caacagcttg	cctttcttca	1020
gtgtccagtt	tcaccagag	caccaagctg	gcccttcaga	tatggaactg	cttttctgata	1080
tctttctgga	aactgtgaaa	gaggccacag	ctggggaacc	tggggggccag	acagttagag	1140
agcggtgac	tgagcgctc	tgtccccctg	ggattcccac	tcccggctct	ggacttccac	1200
caccacgaaa	ggttctgac	ctgggctcag	ggggcctctc	catttgccaa	gctggagaat	1260
ttgactactc	gggctctcag	gcaattaagg	ccctgaagga	ggaaaacatc	cagacgttgc	1320
tgatcaaccc	caatattgcc	acagtgcaga	cctcccagg	gctggccgac	aaggtctatt	1380
ttcttcccat	aacacctcat	tatgtaaccc	aggtgatacg	taatgaacgc	cccgatgggtg	1440
tgttactgac	ttttgggggc	cagactgctc	tgaactgtgg	tgtggagctg	accaaggccg	1500
gggtgctggc	tcgggtatggg	gtccgggtcc	tgggcacaac	agtggagacc	attgagctga	1560
ccgaggatcg	acgggccttt	gctgccagaa	tggcagagat	cggagagcat	gtggccccga	1620
gcgaggcagg	aaattctctt	gaacaggccc	aggcagccgc	tgaacggctg	gggtaccctg	1680
tgctagtgcg	tgacgccttt	gccgtgggtg	gcctgggctc	tggttttgcc	tctaacagg	1740
aggagctctc	tgctctcgtg	gccccagctt	ttgcccatc	cagccaagtg	ctagtagaca	1800
agtctctgaa	gggatggaag	gagattgagt	acgaggtggg	gagagacgcc	tatggcaact	1860
gtgtcacggg	gtgtaacatg	gagaacttgg	acccactggg	catccacact	ggtgagttca	1920
tagtgggtggc	ccctagccag	acactgaatg	acagggagta	tcagctcctg	aggcagacag	1980

ctatcaaggt	gacccagcac	ctgggaattg	ttggggagtg	caatgtgcag	tatgccttga	2040
accctgagtc	tgagcagtat	tacatcattg	aagtgaatgc	caggctctct	cgcagctctg	2100
ccctggccag	taaggccaca	ggttatccac	tggcttatgt	ggcagccaag	ctagcattgg	2160
gcateccctt	gcctgagctc	aggaactctg	tgacaggggg	tacagcagcc	tttgaacca	2220
gcgtggatta	ttgtgtggtg	aagattccctc	gatgggacct	tagcaagttc	ctgcgagtca	2280
gcacaaagat	tgaggagctgc	atgaagagcg	ttggtgaagt	catgggcatt	gggcgttcat	2340
ttgaggaggg	cttccagaag	gccctgcgca	tggtggatga	gaactgtgtg	ggctttgatc	2400
acacagtgaa	accagtcagc	gatatggagt	tggagactcc	aacagataag	cggatttttg	2460
tggtggcagc	tgctttgtgg	gctggttatt	cagtggaccg	cctgtatgag	ctcacacgca	2520
tgcaccgctg	gttcctgcac	cgaatgaagc	gtatcatcgc	acatgccag	ctgctagaac	2580
aacaccgtgg	acagcctttg	ccgccagacc	tgctgcaaca	ggccaagtgt	cttggtctct	2640
cagacaaaca	gattgccctt	gcagttctga	gcacagagct	ggctgttcgc	aagctgcgtc	2700
aggaactggg	gatctgtcca	gcagtgaaac	agattgacac	agttgcagct	gagtggccag	2760
cccagacaaa	ttacctatac	ctaactgatt	ggggcaccac	ccatgacctc	acctttcgaa	2820
caectcatgt	cctagtcctt	ggctctggcg	tctaccgtat	tggctccagt	gttgagtttg	2880
actggtgtgc	gttaggtcgc	atccagcagc	tccgaaagat	gggatataag	accatcatgg	2940
tgaactataa	cccagagaca	gtcagcaccg	actatgacat	gtgtgatcga	ctctactttg	3000
atgagatctc	ttttgaggtg	gtgatggaca	tctatgagct	cgagaaccct	gaaggtgtga	3060
tcctatccat	gggtggacag	ctgcccaaca	acatggccat	ggcgttgcac	cggcagcagt	3120
gccgggtgct	gggcacctcc	cctgaagcca	ttgactcggc	tgagaaccgt	ttcaagtttt	3180
cccggctcct	tgacaccatt	ggatcagcc	agcctcagtg	gagggagctc	agtgaacctc	3240
agtctgctcg	ccaattctgc	cagaccgtgg	ggtaacctcg	tgtggtgcgc	ccctcctatg	3300
tgctgagcgg	tgctgctatg	aatgtggcct	acgcggatgg	agacctggag	cgttctctga	3360
gcagcgcagc	agccgtctcc	aaagagcatc	cctgtggtcat	ctccaagttc	atccaggagg	3420
ctaaggagat	tgangtggat	gccgtggcct	ctgatgggtg	ggtggcagcc	atcgccatct	3480
ctgagcatgt	ggagaatgca	ggtgtgcatt	caggtgatgc	gacgtgggtg	acccccccac	3540
aagatatcac	tgccaaaacc	ctggagcgga	tcaaagccat	tgtgcatgct	gtggggccagg	3600
agctacaggt	cacaggaccc	ttcaatctgc	agctcattgc	caaggatgac	cagctgaaag	3660
ttattgaagt	caacgtacgt	gtctctcgct	ccctccctct	cgtttccaag	acactgggtg	3720
tggacctagt	agccttggcc	acgcgggtca	tctatggggga	agaagtggaa	cctgtggggc	3780
taatgactgg	ttctggagtc	gtgggagtaa	aggtgcctca	gttctccttc	tcccgtttgg	3840
cgggtgctga	cgtggtgttg	ggtgtggaaa	tgaccagtac	tggggaggtg	gccggctttg	3900
gggagagccg	ctgtgaggca	tacctcaagg	ccatgctaag	cactggcttt	aagatcccca	3960
agaagaatat	cctgctgacc	attggcagct	ataagaacaa	aagcgagctg	ctcccaactg	4020
tgcggctact	ggagagcctg	ggctacagcc	tctatgccag	tctcggcaca	gctgacttct	4080
acactgagca	tggcgtcaag	gtaacagctg	tggactggca	ctttgaggag	gctgtggatg	4140
gtgagtgcgc	accacagcgg	agcatcctgg	agcagctagc	tgagaaaaac	tttgagctgg	4200
tgattaacct	gtcaatgcgt	ggagctgggg	gccggcgtct	ctcctccttt	gtcaccaagg	4260
gctaccgcac	ccgacgcttg	gccgctgact	tctccgtgcc	cctaatactc	ganatcaagt	4320
gcaccaaact	ctttgtggag	gccctaggcc	agatcggggc	agccctcctc	ttgaaggtgc	4380
atgttgactg	tatgacctcc	caaaagcttg	tgcgactgcc	gggattgatt	gatgtccatg	4440
tgcacctgog	ggaaccaggt	gggacacata	aggaggactt	tgcttcaggc	acagccgctg	4500
ccctggctgg	gggtatcacc	atggtgtgtg	ccatgcttaa	taccgggcc	cccatcattg	4560
acggccctgc	tctggccctg	gcccagaagc	tggcagagge	tggcgcccg	tgcgactttg	4620
cgtatttctt	tggggccctcg	tctgaaaatg	caggaacctt	gggcaocgtg	gccgggtctg	4680
cagccgggct	gaagctttac	ctcaatgaga	ccttctctga	gctgcggctg	gacagcgtgg	4740
tccagtggat	ggagcatttc	gagacatggc	cctcccaact	ccccattgtg	gctcacgng	4800
agcagcaaac	cgtggctgct	gtcctcatgg	tggctcagct	cactcagcgc	tcagtgcaca	4860
tatgtcacgt	ggcacggaag	gaggagatcc	tgctaattaa	agctgcaaag	gcacggggct	4920
tgccagtga	ctgcgaggtg	gctccccacc	acctgttctt	aagccatgat	gacctggagc	4980
gcctggggcc	tgggaagggg	gaggtccggc	ctgagcttgg	ctcccgcag	gatgtggaag	5040
ccctgtggga	ggacatggct	gtcatcgact	gctttgcctc	agaccatgct	ccccatacct	5100
tggaggagaa	gtgtgggtcc	aggcccccac	ctgggttccc	agggttagag	accatgctgc	5160
cactactcct	gacggctgta	agcgagggcc	ggctcagcct	ggacgacctg	ctgcagcgat	5220
tgcaccacaa	tcctcggcgc	atctttccac	tgcncncgca	ggaggacacc	tatgtggagg	5280
tggatctgga	gcatgagtgg	acaattccca	gccacatgcc	cttctccaag	gcccactgga	5340
caccttttga	agggcagaaa	gtgaagggca	ccgtccgcgc	tgtggtcctg	cgaggggagg	5400

ttgcctatat	cgatgggcag	gttctgggtac	ccccgggcta	tggacaggat	gtacngaagt	5460
ggccacaggg	ggctgttcct	cagctcccac	cctcagcccc	tgccacnagt	gagatgacca	5520
cgacacctga	aagaccccg	cgtggcatcc	cagggcttcc	tgatggccgc	ttccatctgc	5580
cgccccgaat	ccatcgagcc	tccgacccag	gtttgccagc	tgaggagcca	aaggagaagt	5640
cctctcggaa	ggtagccgag	ccagagctga	tgggaacccc	tgatggcacc	tgctaccctc	5700
caccaccagt	accgagacag	gcctctcccc	agaacctggg	gacccctggc	ttgtctgcacc	5760
cccagacctc	acccctgctg	cactcattag	tgggccaaca	tatcctgtcn	gtccagcagt	5820
tcaccaagga	tcagatgtct	cacctgttca	atgtggcaca	cacactgcgt	atgatggtgc	5880
agaaggagcg	gagcctogac	atcctgaagg	ggaaggctcat	ggcctccatg	ttctatgaag	5940
tgagcacacg	gaccagcagc	tccttttgag	cagccatggc	cgggctggga	ggtgctgtgc	6000
tcagcttctc	ggaagccaca	tgcctcgctc	agaaggcgga	atccctggct	gactccgtgc	6060
agaccatgag	ctgctatgcc	gacgtcgctg	tgctccggca	ccccagcct	ggagcagtgg	6120
agctggcngc	caagcactgc	cggaggccag	tgatcaatgc	tggggatggg	gtcggagagc	6180
acccacacca	ggccctgctg	gacatcttca	ccatccgtga	ggagctggga	actgtcaatg	6240
gcatgacgat	cacgatgggtg	ggtgacctga	agcacggacg	cacagtacat	tcctggcct	6300
gcctgctcac	ccagtatcgt	gtcagcctgc	gctacgtggc	acctcccagc	ctgcgcctgc	6360
caccactgtg	gcgggccttc	gtggcctccc	gcggcaccaa	gcaggaggaa	ttcgagagca	6420
ttgaggaggc	gctgcctgac	actgatgtgc	tctacatgac	tcgaatccag	aaggaaacgat	6480
ttggctctac	ccaggagtac	gaagcttget	ttggctcagt	cactctcact	ccccacatca	6540
tgacccgggc	caagaagaag	atggtgggtga	tgcacccgat	gccccgtgtc	aacgagataa	6600
gcgtggaagt	ggactcggat	ccccngcag	cctacttccg	ccaggctgag	aacggcatgt	6660
acatccgcac	ggctctgtta	gccacngtgc	tgggcccgtt	ctaggggcct	ggcttccctc	6720
gcctcttctc	tttaggcccc	gctgctgggc	aaggaattcc	agtgcctcct	acgggggcag	6780
cacacttaga	tattcctgga	catccagatt	gctcacatgt	gctgaccaca	cttcaggctc	6840
tggactggag	ctctctggca	tgggggtggg	gcctcagatg	ctggggccca	gtctgcccc	6900
tcttcattcc	tgcaccttaa	acctgtacag	tcatttttct	actgacttaa	taaacagccg	6960
agctgtccct	tg					6972

<210> 3

<211> 3951

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 166, 3432, 3682, 3937

<223> n = t or c

<221> misc\_feature

<222> 577, 638, 1708, 3730, 3925

<223> n = a or g

<400> 3

gctgtcactt	ggctctctgg	ctggagcttg	aggacgcaag	gagggtttgt	cactggcaga	60
ctcgagactg	taggcactgc	catggcccct	gtgctcagta	aggactcggc	ggacatcgag	120
agtatcctgg	ctttaaatcc	tcgaacacaa	actcatgcaa	ctctgngttc	cacttcggcc	180
aagaaattag	acaagaaaca	ttggaaaaga	aatcctgata	agaactgctt	taattgtgag	240
aagctggaga	ataattttga	tgacatcaag	cacacgactc	ttggtgagcg	aggagctctc	300
cgagaagcaa	tgagatgcct	gaaatgtgca	gatgccccgt	gtcagaagag	ctgtccaaact	360
aatcttgata	ttaaattcatt	catcacaagt	attgcaaaca	agaactatta	tggagctgct	420
aagatgatat	tttctgacaa	cccacttggg	ctgacttgtg	gaatggtatg	tccaacctct	480
gatctatgtg	taggtggatg	caatttatat	gccactgaag	agggacccat	taatattggg	540
ggattgcagc	aatttgctac	tgaggatttc	aaagcantga	gtatcccaca	gatcagaaat	600
ccttcgctgc	ctccccccaga	aaaaatgtct	gaagcctntt	ctgcaaagat	tgtctttttt	660
ggtgctgggc	ctgcaagtat	aagttgtgct	tccttttttg	ctcgattggg	gtactctgac	720
atcactatat	ttgaaaaaca	agaatatgtt	ggtgggttaa	gtactctotga	aattcctcag	780
ttccggctgc	cgtatgatgt	agtgaatttt	gagattgagc	taatgaagga	ccttgggtga	840

aagataat	ttt	gcggtaaa	gag	cttttcag	tg	aatgaa	atga	ctcttagc	ac	tttgaa	agaa	900	
aaaggct	aca	aagctg	cttt	cattgga	ata	ggtttg	ccag	aaccca	ataa	agatgc	ccatc	960	
ttccaag	gcc	tgacgc	cagga	ccaggg	gttt	tatacat	cca	aagact	tttt	gccact	tgta	1020	
gccaaag	gca	gtaaa	gcagg	aatgtg	cgcc	tgctact	ctc	cattgc	ccatc	gatacg	gggga	1080	
gtcgtga	ttg	tacttg	gagc	tgagaca	act	gccttc	gact	gtgca	acatc	tgctct	acgt	1140	
tgtggag	ctc	gccgag	tgtt	catcgt	cttc	agaaa	aggct	ttgtta	aatat	aagagc	tgct	1200	
cctgagg	aga	tgagct	tgc	taagga	agaa	aagtgt	gaat	ttctgc	catt	cctgtc	cccc	1260	
cggaagg	tta	tagtaaa	agg	tgggaga	aatt	gttgc	tatgc	agtttg	ttcg	gacaga	gcaa	1320	
gatgaaa	ctg	gaaaat	ggaa	tgaagat	gaa	gatcag	atgg	tccatc	tgaa	agccga	tgtg	1380	
gtcatca	gtg	cttttg	gttc	agttct	gagt	gaccta	aaag	taaaa	agaagc	cttgag	ccct	1440	
ataaaa	ttta	acagat	gggg	tctccc	agaa	gtagat	ccag	aaacta	tgc	aactag	tga	1500	
gcatggg	tat	ttgcagg	tgg	tgatgt	cggt	ggtttg	ggcta	acacta	acagt	ggaatc	gggtg	1560	
aatgatg	gaa	agcaag	cttc	ttggtac	att	cacaa	atag	tacagt	ccaca	atatgg	agct	1620	
tccgttt	ctg	ccaagc	ctga	actacce	ctc	ttttac	actc	ctattg	atct	ggtgg	acatt	1680	
agtgtag	aaa	tggcgg	gatt	gaagtt	ntna	aatcct	tttg	gtcttg	ctag	cgcaac	tcca	1740	
gccaccag	ca	catcaat	gat	togaaga	gct	tttga	agctg	gatggg	gttt	tgccct	cacc	1800	
aaaaact	ttct	ctcttg	ataa	ggacatt	gtg	acaaat	gttt	ccccca	gaat	catccg	ggga	1860	
accacct	ctg	gcccc	atgta	tggccct	gga	caaagc	ctct	ttctga	aatat	tgagct	catc	1920	
agtgaga	aaaa	cggtct	gcata	ttggtg	tcaa	agtgct	actg	aactaa	aggc	tgactt	cccc	1980	
gacaac	attg	tgattg	ctag	cattat	gtgc	agttac	aata	aaaatg	actg	gacgga	actt	2040	
gccaaag	aag	ctgagg	attc	tggagc	agat	gccttg	gagt	taaatt	tatc	atgtcc	acat	2100	
ggcatgg	gag	aaagag	gaat	gggcct	ggcc	tgtggg	cagg	atccag	agct	ggtgcg	gaac	2160	
atctg	ccgct	gggtta	ggca	agctgt	tcag	attcct	tttt	ttgcca	agct	gacccc	aaat	2220	
gtcactg	ata	ttgtga	gcat	cgcaag	agct	gcaaag	gaag	gtggtg	ccaa	tggcgt	taca	2280	
gccacca	aaca	ctgtct	cagg	tctgat	ggga	ttaaa	atctg	atggc	acacc	ttggcc	agca	2340	
gtgggg	attg	caaagc	gaac	tacat	atgga	ggagt	gtctg	ggacag	caat	cagacc	tatt	2400	
gctttg	agag	ctgtga	ccctc	cattg	ctcgt	gctctg	ccctg	gatttc	cccat	tttgg	ctact	2460	
ggtgga	aattg	actctg	ctga	aagtgg	tctt	cagttt	ctcc	atagtg	ggtgc	ttccgt	ctctc	2520	
caggta	tga	gtgcc	attca	gaatc	aggat	ttcact	gtga	tccaag	acta	ctgcact	ggc	2580	
ctcaaag	ccc	tgcttt	tatct	gaaaag	catt	gaaga	actac	aagact	ggga	tggac	aggt	2640	
ccagct	actg	tgagtc	acca	gaaagg	gaaa	ccagtt	ccac	gtatag	ctga	actcat	ggac	2700	
aagaaa	actgc	caagtt	tttgg	acctta	tctg	gaacag	cgca	agaaa	atcat	agcaga	aaaac	2760	
aagatt	tagac	tgaaag	aaca	aatgt	tagct	ttttc	accac	ttaaga	gaag	ctgttt	tatc	2820	
cccaaa	aggc	ctattc	ctac	catca	aggat	gtaat	aggaa	aagc	actg	ca	gtacct	tgga	2880
acattt	ggtg	aattga	gcaa	cgtag	agcaa	gttgt	ggcta	tgatt	gatga	agaa	atgtgt	2940	
atcaac	tgtg	gtaaat	gcta	catga	ccctgt	aatga	ttctg	gctacc	aggc	tatac	agttt	3000	
gatccag	aaa	cccac	ctgcc	caccata	aacc	gacact	ttgta	caggct	gtac	tctgtg	tctc	3060	
agtgtt	tgcc	ctattg	toga	ctgc	atcaaa	atggtt	ttcca	ggaca	acacc	ttatga	acca	3120	
aagagag	ggcg	taccct	tatc	tgtga	atccg	gtgtgt	ttaag	gtgatt	ttgtg	aaacag	ttgc	3180	
tgtga	acttt	catgtc	acct	acat	atgctg	atctct	ttaaa	atcatg	atcc	ttgtgt	tcag	3240	
ctcttt	tccaa	attaaa	acaa	atata	cattt	tctaaa	ataaa	aatatg	taat	ttcaaa	atac	3300	
atltgt	aaagt	gtaaaa	aatg	tctcat	gtca	atgacc	attc	aattag	tggc	ataaaa	taga	3360	
ataatt	ctttt	tctgag	gata	gtagt	ttaaat	aactgt	gtgg	cagtt	aatgtg	gatgtt	cact	3420	
gccagt	ttgtc	tnatgt	gaaa	aattaa	cttt	ttgtgt	ggca	attagt	gtga	cagttt	tccaa	3480	
attgcc	ctat	gctgtg	ctcc	atattt	tgatt	tcta	attgta	agtga	aatga	agcatt	tttga	3540	
aacaaa	agtac	tcttta	acat	acaaga	aaaat	gtatcc	aagg	aaac	atttta	tcaata	aaaaa	3600	
ttacct	tttaa	tttta	atgct	gtttc	ttaaga	aaatg	tagtt	agctcc	ataa	agta	caaatg	3660	
aagaaa	agtca	aaaatt	tattt	gntat	ggcag	gataa	gaaag	cctaaa	attg	agttt	gtgga	3720	
ctttat	taan	taaa	atcccc	ttcgt	gaaa	ttgett	tattt	ttggtg	tttg	atagag	gata	3780	
gggaga	aatat	ttacta	acta	aatacc	attc	actact	catg	ctgga	gatgg	gtgtac	aaaac	3840	
tcac	ctctt	ttaat	ggcat	ttct	ctttta	actatg	ttcc	taacca	aatg	agatga	tagg	3900	
atagat	cctg	gttacc	actc	tttnt	ctgtg	cacat	anggg	ccccg	gaatt	c		3951	

&lt;210&gt; 4

&lt;211&gt; 2816

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



<220>  
 <221> misc\_feature  
 <222> 175, 1067  
 <223> n = g or a  
  
 <221> misc\_feature  
 <222> 341  
 <223> n = c or g  
  
 <221> misc\_feature  
 <222> 791, 1997, 2618, 2653  
 <223> n = t or c  
  
 <221> misc\_feature  
 <222> 1337  
 <223> n = c or a  
  
 <221> misc\_feature  
 <222> 2107  
 <223> nucleotide in position 2107 is g, or absent  
  
 <221> misc\_feature  
 <222> 2583  
 <223> n = t or g

<400> 4  
 gggccggggtc cgggagcccc agggcagccg ccccgccgag tcgcaggcac agtgtcacct 60  
 tcgtcccttc cggagctgca cgtggcctga gcaggatggt gccctccagc ccagcgggtgg 120  
 agaagcaggt gcccggtgaa cctgggcctg accccgagct ccggtcctgg cggcncctcg 180  
 tgtgtacct ttgtttctac ggcttcatgg cgcagatacg gccaggggag agcttcatca 240  
 cccctacct cctggggccc gacaagaact tcacgcggga gcaggtcacg aacgagatca 300  
 cgccgggtgct gtctactcc tacctggccg tgctgggtgcc ngtgttctcg ctcaccgact 360  
 acctgcgcta cagccgggtg ctgctgctgc aggggctcag cttcgtgtcg gtgtggctgc 420  
 tgctgctgct gggccactcg gtggcgaca tgcagctcat ggagctcttc tacagcgtea 480  
 ccatggccgc gcgcacgcgc tattcctcct acatcttctc tctcgtgcgg ccgcgcgct 540  
 accagcgtgt ggccggctac tcgcgcgctg cgggtgctgct gggcgtgttc accagctccg 600  
 tgctgggcca gctgctggtc actgtgggccc gagtctcctt ctccacgctc aactacatct 660  
 cgctggcctt cctcaccttc agcgtggctc tcgcccctct cctgaagcgc cccaagcgca 720  
 gctcttctt caaccgcgac gaccgggggc ggtgcgaaac ctcggcttcg gagctggagc 780  
 gcatgaatcc nggcccaggc gggaagctgg gacacgcctt gcgggtggcc tgtggggact 840  
 cagtgtctggc gcggatgctg cgggagctgg gggacagcct gcggcggccg cagctgcgcc 900  
 tgtgggtccct ctggtgggtc ttcaactcgg ccggtacta cctggtggtc tactacgtgc 960  
 acatcctgtg gaacgaggtg gacccaccca ccaacagtgc gcgggtctac aacggcgcg 1020  
 cagatgctgc ctccacgctg ctgggcgcca tcacgtcctt cgccgcnngc ttctggaaga 1080  
 tccgctgggc gcgctggtcc aagctgctca tcgcgggcgt cacggccacg caggcggggc 1140  
 tggctcttct tctggcgcac acgcgccacc cgagcagcat ctggctgtgc tatgcggcct 1200  
 tcgtgctgtt ccgcggctcc taccagtcc tcgtgcccac cgccaccttt cagattgcat 1260  
 cttctctgtc taaagagctc tgtgccctgg tcttcgggggt caaacgttc tttgccacca 1320  
 tcgtcaagac catcatnact ttcatgtct cggacgtgcy gggcctgggc ctcccggctc 1380  
 gcaagcagtt ccagttatac tccgtgtact tccgtatcct gtccatcacc tacttcttgg 1440  
 gggccatgct ggatggcctg cggcactgcc agcggggcca ccaccccgcg cagcccccg 1500  
 cccagggcct gaggagtgc gcggaggaga aggcagcaca ggcactgagc gtgcaggaca 1560  
 agggcctcgg aggcctgcag ccagcccaga gcccgccgct ttcccagaa gacagcctgg 1620  
 gggctgtggg gccagcctcc ctggagcaga gacagagcga ccataacctg gccagggccc 1680  
 cgccccgca ggcagctgaa ttcctgagcc cagtgaaca cccttcccc tgcactctgt 1740  
 gctccgcca agcctcaggc cctgaggctg cagatgagac ttgtccccag ctggtgttcc 1800



atcctcctgg	tgtcagcaag	ctgggtttgc	agtgtcttcc	aagcgacggc	gttcagaatg	1860
tgaaccagtg	actctcgggc	gccccctgtg	taactttgca	ggcgccctc	agtgcacccc	1920
cacgacccct	gcttcgaggg	ccgcctgcct	tagcaatggg	ggcctccgct	tatcctgcta	1980
gcaggccccc	taggatnccc	cctgccctgt	gccgcactct	ggcgggtggc	acagcgtgct	2040
ggcgacactc	agggcagctg	cctggccatg	ctgtccctgc	actgtgcccc	gcgggctttg	2100
ttgctgngaa	gaggtgggtg	gtgggtctct	gcgtccacca	ggcctcactg	gctcatgccc	2160
cttggggggc	ttgagacaaa	tcctttctgc	cccccagggc	tagtgaagtg	gcctcttgga	2220
taccagctca	ggggacactg	gccccacagg	agttgtgagc	cctctagggc	aggggtgggag	2280
ccgggaccct	caggtgttagc	tgagctgtga	cattgctggt	catccttggc	gctcttgctt	2340
ttttgaaaaga	tgcttttttt	ttttttaact	gacgtagaat	gaagaactgc	atgtggcttc	2400
tctgtctctg	tggaaaagcc	atctcaggtt	ggcggcagac	acattgtcat	cagaggggag	2460
cagcggctct	ggctctcgga	gctgggttct	ctctcccacc	ctaagggcag	ccctccatgg	2520
tcctgtctgt	ccttctgaag	tgtgtccatc	ctgacctgcg	ggctctcagc	tgctcccaca	2580
ctngtgccag	cccggagggg	actgggtccc	gtcaccnggg	acgtgctggc	cttgggtatgt	2640
gccaggcttg	ccngggctgg	gcagccttgg	gggggctgcc	tttgtggtgg	gcgctgggga	2700
agtaactccc	agcggcctca	gggtctaagg	agcgtagtgt	ccttgcccac	aggtgcggga	2760
ccatctgatg	tgatgtgaat	actcttccca	catacatata	acacacttaa	gtgaga	2816

<210> 5

<211> 3772

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 431, 441

<223> n = a or g

<221> misc\_feature

<222> 498

<223> n = c or t

<221> misc\_feature

<222> 579, 599

<223> n = g or c

<400> 5

gatcccccat	ttccagccaa	caaatecttt	ttaagttcct	ttgagatttg	ttacgtgtgc	60
ttgtacact	caggactctg	gaaagaagcc	caggccagag	ctttgggcag	gcgccatttt	120
aggcaagggc	cctgtgttgg	cttctgtgtg	gggttgccct	gctggtgggc	gggagaccaa	180
gagcaccccc	gcaacaccag	gaggcaggtc	gcggattgtg	ctgtctacac	tcgggaaggg	240
gtacattcca	ggctgctgcc	ccagactcac	ccctgccttg	ggacccgcac	tcttgagctg	300
tgggtaccac	gggtggccgtc	cccttctgtt	ctgtgcagtg	gacttccctg	ctcctcctta	360
gccttggggc	cccacagccc	tcggcttggc	ttccctcccc	atagccaggc	cctgggtaac	420
tcagggggaa	ngtgacctg	nggcccccca	cttctccccg	tgctcctgca	caggccttgg	480
gctttcggcg	gtgctgtntg	ccgcagcccc	acgccttccct	gggagagtgg	cccaggcccc	540
ccttctctgag	tgtgactgcg	ctgccgtctg	cgaggcctnc	gcgggtctcc	cccgggctnt	600
cctgctggga	tggggactgg	tggccccggg	ccacgtcctg	gatccggctt	gctccttggg	660
acaagccgta	cgggtcacgg	tcaggcagga	gggcggggcg	cggggtcccg	ggggcgccga	720
gttcggggcg	tgcggtcccc	aagagcaggc	tgtgctgtgc	cctgttgagg	ccccacgaag	780
gcgggccagg	gcacccctga	gggcgcgtgg	gccgacccgc	gtcccggatc	cagcttgccg	840
caggaatgca	ggtgtttccag	ggtgccaaaa	ggaaaaacga	caaggcctcg	tcaggagggg	900
ggggtcagga	ggggaccggg	ggtgggaaga	acgcggggga	gagggatggc	aggggtgccc	960
cccaggggac	cgacacctcc	gcgagtggca	ccccaggatg	ctgacgcggg	cgggggtggg	1020
ggcccagagg	gcggctgggg	tcaggggggc	gccccagggg	tagggccgca	gcacgagggg	1080
ccgcgtgacc	cggcggtgac	cgggtgggga	gaggccggcg	ccggggctgg	gagacggccg	1140
tgggtgggag	ggtgccccgt	ggggacgctc	ctgcgcgagc	gcccggccac	gcgcgaggcc	1200

cgcgcctcag	gacgcgttgc	cggaacggac	cgcgcacccc	cgcagccgcc	ggcccgcgcg	1260
ggcgccttgc	ggcgctgtag	tcccggagtc	cgcgtgcgcg	gggcgcgggtc	cgggagcccc	1320
agggcagccg	ccccgcagag	tgcaggttac	cgggtgggaa	cggggccacg	gggcgcgtgt	1380
cgggggctgc	gggggtgtct	ggggccctgg	ggtgagtgcg	gggcgcgggc	cagggtttgc	1440
agggccctgt	gaggtgagt	tgggggctgg	cgcctggggtc	cgcggggccc	tggggaggggt	1500
gcggggcggtg	ggccgggggtc	tgcggtctgc	agcctgggggt	ccgcggggcc	tggggaggggt	1560
gcggggcggtg	ggccgggggtc	gcggtctgca	gcctgggggtc	tggggggccc	tggggaggggt	1620
gcggggcggtg	ggccgggggtc	tcgcggggggt	cgcgggtggcc	cggggggcctg	gcagaaccgt	1680
tgctgtgcac	ggggtttccc	gcgcgtcgct	ttccgcgcga	gcctgcgaat	gggggtgggga	1740
gtcccgggcc	ccagcctgcc	ctccgcgtca	tcctggggcg	ccaagtccca	cccccgggtc	1800
tggaggaaag	cgtggatccg	cgttcgcgcc	caggcacgtg	ttgcttcggg	acggggccagc	1860
cgggtgggtga	accctgccag	ccacgcgtgg	ggcgggcccc	tggcacatct	ccagaccatt	1920
gtctcctgtg	ccagaagctt	tgtaggtgca	acttccccct	ggagcagctg	tgggtgcgga	1980
tccagcggac	gaatcccag	gcgtctcaga	gagagcctgg	acagccgctg	gagcctttcc	2040
caggtgggtc	cttccaacac	cgttacagca	ggaaagccat	ccccctaggg	tcctgtccat	2100
cggaaactcc	tgtcctgggg	agtctgcctg	cctggcctca	ggacacaggc	caactaagct	2160
ggccccgaaa	tccagaatgc	atccagaggg	aaggtgggat	aaagtccctg	gagcgcctgt	2220
tggccgcctt	gtaaagaggt	ggcctcccc	tacggagacc	caggatccc	cgcacagccc	2280
agattcaatc	agcagagccg	aggtgcctct	ggcccagtg	acctgcctgc	cctgtccagg	2340
cctgggagcc	aggctgcac	tcactggccg	cctttgcctg	ggtgccacct	gtgcactgct	2400
tgttgcaatt	gctaattgct	ttctttccga	agggccttgg	aggattttta	taattccaga	2460
tagtacagtt	atctctgctg	gacacagatg	agaaagagtg	cttctcgggt	gtttgggcct	2520
gcagcagtga	tagccggagg	tctaattatg	ctgttaggaa	ccctgaactt	ggtcatctga	2580
acaggggtgg	gaggggtgtg	aatgctttct	tcttcttctt	cttcttttta	aactagcagg	2640
cgttctaaaa	aacataacga	acattcttgg	ttagccttcc	agagtaggag	ctggtttaaa	2700
cacggaatga	taggtggcgt	ttgcttgtgt	tttgattgcg	ggtctctggc	cttctctggt	2760
gcttggaagg	acagggcctg	ggtggggctg	gtcactgtgg	acagtggggc	cggggatttg	2820
caggggctgt	tacaaccttc	tcctgaaggc	agggattctc	tctgcttccc	cgtggccctc	2880
ctgtctggtc	ggggacttcc	ttcagatgcc	gggaagaggc	ctcaagctgt	atgggactgg	2940
gctggggctt	ggacacttgg	agtctaggcg	tcccctggct	tggggctgcg	tttctatgat	3000
ggtgaccaag	ttccctatct	ttcctcttgg	aggtggtctg	ggccgtgatg	gccaagcctc	3060
tgtcagtggg	ctacgttcac	ggcacataag	ttgagtatgc	tggcagcaga	ggctgactgt	3120
taagaccagc	agcagccctt	tgttggcgga	gactctggct	gtctctccaa	ggaaggaatg	3180
ttcttggtgc	ttctggagggt	ggcaccttct	agaacagggg	gcccaggtac	ccagggctcc	3240
cgggccccctg	ggggctcctgt	gggtggggatc	tgactcctgc	ggccatggac	tgtggggcgca	3300
gaccctgggc	ttagttcagc	tcctgatggc	tcccctgtgt	ctgcggcgat	ctggttgctc	3360
tggttgtctg	gggatcgggtg	cgcctgtcta	aacctgctga	caggtgggaa	agtgaacttg	3420
acagggagtc	ccagggccaa	atgggtctcc	cagtggggag	gagtgggtgc	ggtctgaggt	3480
atgtccagct	ctaccctggg	cctctctggg	catcagggtc	cctgggtgatg	gagcccaacc	3540
tttgtgcact	gatcttccca	gctgttgaca	ggccctgagg	aggcgtggaa	ggtgaggccg	3600
aggcaggcga	ccgtcagatc	tgccctggcc	tggcagtggc	ccctgcctgc	gcttccctct	3660
gcctggccgg	ctgttttcat	cctggccctt	tgagaacttc	tagggctcctg	gctgcctcca	3720
atggagggtg	ctggtcccat	cttcttccca	gctgtgcctt	gcogtggagc	tc	3772

&lt;210&gt; 6

&lt;211&gt; 1536

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; 1066

&lt;223&gt; n = t or c

&lt;221&gt; misc\_feature

&lt;222&gt; 1136

&lt;223&gt; n = a or g

<221> misc\_feature

<222> 1497

<223> n = t or a

<400> 6

```

gggggggggg ggaccacttg gcctgcctcc gtcccgccgc gccacttggc ctgcctccgt      60
cccgccgcgc cacttcgcct gcctccgtcc ccgcgccgcc gcgccatgcc tgtggccggc      120
tcggagctgc cgcgcgggcc cttgcccccc gcgcacacagg agcgggacgc cgagcccgct      180
ccgccgcacg gggagctgca gtacctgggg cagatccaac acatcctccg ctgcggcgctc      240
aggaaggacg accgcacggg caccggcacc ctgtcgggtat tcggcatgca ggcgcgctac      300
agcctgagag atgaattccc tctgctgaca accaaacgtg tgttctggaa ggggtgttttg      360
gaggagtgtc tgtggtttat caagggatcc acaaagtcta aagagctgtc ttccaaggga      420
gtgaaaatct gggatgccaa tggatcccca gacttttttg acagcctggg attctccacc      480
agagaagaag gggacttggg cccagtttat ggcttccagt ggaggcattt tggggcagaa      540
tacagagata tggaatcaga ttattcagga cagggagtgt accaactgca aagagtgatt      600
gacaccatca aaaccaaccc tgacgacaga agaatcatca tgtgcgcttg gaatccaaga      660
gatcttcctc tgatggcgct gcctccatgc catgccctct gccagttcta tgtggtgaac      720
agtgaagtgt cctgccagct gtaccagaga tcgggagaca tgggcctcgg tgtgccttcc      780
aacatcgcca gctacgcctt gctcacgtac atgattgcgc acatcacggg cctgaagcca      840
ggtgaacttta tacacacttt gggagatgca catattttacc tgaatcacat cgagccactg      900
aaaattcagc ttcagcgaga acccagacct ttcccaaagc tcaggattct tcgaaaagtt      960
gagaaaattg atgacttcaa agctgaagac ttccagattg aaggggtacaa tccgcatcca     1020
actattaaaa tggaaatggc tgtttagggt gctttcaaag gagctngaag gatattgtca     1080
gtctttaggg gttgggctgg atgccgaggt aaaagttctt tttgctctaa aagaanaagg     1140
aactaggtca aaaatctgtc cgtgacctat cagttattaa tttttaagga tgttgccact     1200
ggcaaatgta actgtgccag ttctttccat aataaaaggc tttgagttaa ctactgagg     1260
gtatctgaca atgctgaggt tatgaacaaa gtgaggagaa tgaaatgtat gtgctcttag     1320
caaaaacatg tatgtgcatt tcaatcccac gtacttataa agaaggttgg tgaatttcac     1380
aagctatttt tggaaatatt ttagaatatt ttaagaattt cacaagctat tccctcaaatt     1440
ctgagggagc tgagtaacac catcgatcat gatgtagagt gtggttatga actttanagt     1500
tgttttatat gttgctataa taaagaagtg ttctgc      1536

```

<210> 7

<211> 1187

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 276, 321, 534, 656

<223> n = c or t

<221> misc\_feature

<222> 452, 640

<223> n = a or g

<221> misc\_feature

<222> 492, 625

<223> n = c or a

<221> misc\_feature

<222> 458

<223> nucleotide in position 458 is c, or absent

<400> 7

gatcgcgcca ctgcactcca gcctgggtga gagagcgaga ctctgtctca aaaaaaaaaa 60

aaaaagaccg	ccagggctca	aacaaaaaac	ctcggaagaa	ccctggcggt	cttttttttt	120
tttttttttt	tttttttttg	ggacagtctt	gctctgtcgc	ccaggctgga	gtacaatggt	180
cggaatcttg	ctcactgcaa	cctctgcctc	ccaggttcaa	gcaattcttc	tgctcagcc	240
tcccaagtag	ccaccacgcc	cagctaattt	ttgtantttt	agtagagacg	ggggtttcac	300
catgttgctc	aggctggtct	ngaactcctg	acctcaggtg	atccaccgcg	ctcggccccc	360
caaagtacta	ggattacagg	cgtgagccac	cgcgtccagc	gccctggcgg	tttttaatca	420
agtagaaaag	ctgcattata	ccacttgctt	cngttgcntt	cagtgagaac	gaagaaatgg	480
aaatgcaaat	cncttattag	ttgtaggaaa	cagatctcaa	acagcagttt	tgtngacaag	540
accgcaggaa	aacgtgggaa	ctgtgctgct	ggcttagaga	aggcgcggtc	gaccagacgg	600
ttcccaaagg	gcgcagtcct	tcccngccac	cgcacctgen	tccaggttcc	cgggtntcct	660
aagactctca	gctgtggccc	tgggtccgt	tctgtgccac	acccgtggct	cctgcgtttc	720
cccctggcgc	acgctctcta	gagcgggggc	cgcgcgcacc	ccgccgagca	ggaagaggcg	780
gagcgcggga	cggccgcggg	aaaaggcgcg	cgggaaggggt	cctgccaccg	cgccacttgg	840
cctgcctccg	tcccgccgcg	ccacttgccc	tgccctcgtc	ccgccgcgcc	acttcgcctg	900
cctccgtccc	ccgcccgccg	cgccatgcct	gtggccggct	cggagctgcc	gcgccggccc	960
ttgccccccg	ccgcacagga	gcgggacgcc	gagccgcgtc	cgccgcacgg	ggagctgcag	1020
tacctggggc	agatccaaca	catcctccgc	tgccggctca	ggaaggacga	ccgcacgggc	1080
accggcaccc	tgctcggatt	cggcatgcag	gcgcgctaca	gcctgagagg	tgacgccgcg	1140
ggccctcgcg	ggacgggtgg	cgggaaggag	ggaggcgcgg	ctggggga		1187

<210> 8

<211> 18597

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 701, 13751

<223> n = c or a

<221> misc\_feature

<222> 716, 1293, 2401, 2429, 2618, 3083, 3125, 3635, 4256, 4898, 5062, 5167, 11069, 13298, 14479, 14730, 14796, 15344, 15450, 15503, 15590, 15840, 16149

<223> n = a or g

<221> misc\_feature

<222> 732, 1379, 1590, 2488, 3212, 5006, 11238, 11422, 11686, 12598, 13171, 13645, 13782, 13806, 13813, 14586, 14788, 15042, 15546, 15770

<223> n = c or t

<221> misc\_feature

<222> 1322, 1688

<223> n = c or g

<221> misc\_feature

<222> 2594, 11293, 16199, 16203

<223> n = g or t

<221> misc\_feature

<222> 3619

<223> n = a or t

<221> misc\_feature

<222> 14547

<223> nucleotide in position 14547 is t, or absent

&lt;400&gt; 8

cctgtagtcc	cagctacgcg	agaggctgag	gcagcagaat	tacttgaacc	caggaggcgg	60
aggttgagat	gagccgagat	cgcgccactg	cactccagcc	tgggtgagag	agcgagactc	120
tgtctcaaaa	aaaaaaaaaa	aagaccgcca	gggctcaaac	aaaaaacctc	ggaaaagccc	180
tggcgggtctt	tttttttttt	tttttttttt	ttttttggga	cagtcttgct	ctgtcgccca	240
ggctggagta	caatggtcgg	atcttggttc	actgcaacct	ctgcctccca	ggttcaagca	300
attcttctgc	ctcagcctcc	caagtagcca	ccacgcccag	ctaatttttg	tacttttagt	360
agagacgggg	gtttcaccat	gttgtccagg	ctggctctga	actcctgacc	tcaggtgatc	420
caccgcctc	ggccccccaa	agtactagga	ttacaggcgt	gagccaccgc	gtccagcgcc	480
ctggcggttt	ttaatcaagt	agaaaagctg	cattatacca	cttgcttcgg	ttgcttcagt	540
gagaacgaag	aaatggaaat	gcaaatccct	tattagtgtg	aggaaacaga	tctcaaacag	600
cagttttgtt	gacaagaccg	caggaaaacg	tgggaactgt	gctgctggct	tagagaaggc	660
gcggtcgacc	agacggttcc	caaagggcgc	agtccttccc	ngccaccgca	cctgcntcca	720
ggttcccggg	tntcctaaga	ctctcagctg	tggccctggg	ctccgttctg	tgccacaccc	780
gtggtcctcg	cgtttcccc	tggcgcacgc	tctctagagc	ggggggccgc	gcgaccccg	840
cgagcaggaa	gaggcggagc	gcgggacggc	cgcgggaaaa	ggcgcgcgga	aggggtcctg	900
ccaccgcgc	acttgccctg	cctccgtccc	gcgcgcgcac	ttggcctgcc	tccgtccgc	960
cgcgccactt	cgctgcctc	cgccccgcgc	cgccgcgcgc	atgcctgtgg	ccggctcgga	1020
gctgcgcgc	cgcccttgc	ccccgcgcgc	acaggagcgg	gacgcgcgag	cgcgcccgcc	1080
gcacggggag	ctgcagtacc	tggggcagat	ccaacacatc	ctccgctgcg	gcgtcaggaa	1140
ggacgaccgc	acgggcaccc	gcacccctgt	ggtattcggc	atgcaggcgc	gctacagcct	1200
gagaggtgac	gccgcggggc	cctgcggggc	gggtggcggg	aaggaggagg	gcgcggctgg	1260
ggagagcgct	cgggagctgc	cgggcgctgc	ggnccccgtt	tagtcctaac	ctcaatcctg	1320
cnaggaggag	gacgcacgt	cctcctcgcc	ttacagacgc	cgaaacggag	ggtcccatna	1380
gggacgtgac	tggcgcgggc	aacacacaca	gcagcgacag	ccgggaggta	agccgcgtcc	1440
cagcggtccc	gcggccgggc	tgcgagtcgc	cccagtgatg	ccgtggcccc	cgaggcgggc	1500
gtcatcgggc	agcgtttgcc	cagtgcctga	gggttaggga	gagctgcctg	ggcttgaccg	1560
cgcgcgggtc	tcaaagtcc	ggctttggcn	cctcctccgt	ttccccctgt	ggaccattcc	1620
gcttcgcagc	gttttcaaaa	actggagcga	aagtgatgtg	ggcggggcaa	aggcgcgggg	1680
aagagganag	actgaagct	ggcgcgggaa	cttggtttcc	tgttggcctc	ccatccaatc	1740
cccacgaacc	agctttcctc	ttaaaccctt	aaaagagaaa	ttcgggagtt	cgagttctta	1800
gtcgtccctt	cctctttcct	ttccgacagg	agcaccaccg	gcaaaaaatg	tctcgcggtt	1860
cattggcgcc	aggctttcag	gggacagtgg	ggcgggggcg	ggtgggcaca	ggacgttagg	1920
cagccgttgg	ccctccctaa	ggccacaccg	tctgcgcgtc	ctggatcctg	cgccagctgc	1980
gcggggggagg	ggactcgaag	gtgtgtgagc	caggggctga	ccttgaccgc	tcagataaat	2040
ggagcgcagc	cttgacacag	gggtggaggt	ggttttgaat	ggggaaaccc	attcgtgggtg	2100
aagcagattc	actgtagcta	gcggaaaagc	cctccggccc	acggacccat	ctagagacga	2160
atacatagca	gctgctgtgg	ctgattggcg	tgggacagcg	tggggagttt	tgtctgagga	2220
gagggatcca	cttttctgca	gctccaagcc	caggggctt	tgatgagcca	tagacctcat	2280
ttttaaceca	cctttctgct	tagacattga	gcaagttact	tctcatatag	cttccctata	2340
tgttaaaaa	ggagaaaata	atgcttagta	ggcaattctg	ataaaaagcag	gtgcttgcaa	2400
naatctctct	gttgtctgaa	tataaaactnt	accacaagcg	agtgcggatg	aacgaggact	2460
gcattttaaag	ataagttttt	acactttnat	ttctctgtgg	ctcgacactt	ctgatgcctc	2520
cctttttgtt	cctgggacac	atgcttgggt	ttgtctttac	acctttgtga	caggattagc	2580
actagtgggc	agtnagtgat	agctcctcct	cctttttncc	acatgttcat	ccctgccttc	2640
gccaccatct	cactgtgtgg	aattcctgtg	tccactggtc	accggggcac	agaagtgctg	2700
tctcagcctg	aatcgggcca	ctgatgggac	ttgcagcctg	ggagctccac	cgtgatctct	2760
ggcccacttt	gcgggagtet	aggctttctg	gatgctccag	gcctcacgtc	ccagggcagt	2820
tttcttccct	gaagaaagt	ggatggcatg	atctgtcttc	ccatcttgaa	accgtatggc	2880
aaattgtttt	tcagatgaat	tccctctgct	gacaaccaa	cgtgtgttct	ggaagggtgt	2940
tttgaggag	ttgctgtggt	ttatcaaggt	aaagaagtcg	ctgctattag	aagtcagtag	3000
tctgtttctca	acacagcagc	cagtgcagtc	ctttcaaaac	tcaaagcagc	caggtgtggt	3060
ggctcacgcc	tgtaatccca	cncttttggg	aggctgagtc	agatcacctg	aggttaggaa	3120
tttgngacca	gcctggccaa	catggcgaca	ccccagtcct	tactaataac	acaaaaaatt	3180
agccaggtgt	gctggtgcat	gtctgtaatc	cnagctactc	aggaggctga	ggcatgagaa	3240
ttgctcacga	ggcgagggtt	gtagtgcgt	gagatcggtg	cactgtactc	cagcctggcg	3300

acagagggag	aacccatgtc	aaaaacaaaa	aaagacacca	ccaaagggtca	aagcatatca	3360
ttctccccc	tcaagccott	agtggctcca	tttcaactcag	taagagccac	ggtccttatg	3420
gtgtccgttt	ttcagctctg	accttagctg	ctgctctctg	caccacccctg	ctgttcttgt	3480
gagtttttga	gcacaccggg	acatccccac	tccctggaac	cttcttcccc	cacacttggc	3540
ttcttccctt	gagtctctac	tccactcggg	caagccttcc	tagacctcct	gatttaaaac	3600
tgtgactctc	ccccaacnc	cttgggtgtt	ctccntagac	gaacatcacc	atctgatgta	3660
tgtcagcctt	tcccttcccc	tgttagaagg	gggacagcag	gtagtaaaag	tgaaatgtgc	3720
tgttaagctt	atgagggcag	aggatttgtt	tctcgtgttc	actgttgtat	cgccagggcc	3780
tcaaacacag	cctgccacat	agtaggagtc	aacatatatt	gatcactaaa	tgtagatacc	3840
acctgtgttc	ccatgttcat	ataaattcta	gaagagtctc	ttcagtaaca	aggtgaaccc	3900
cttccagagg	gctgagtagg	tacctcaggc	cggggccaga	gtgctgtgaa	gacagcagca	3960
gccagacca	agcttctctg	tgttccgtgt	cctgggtctag	aaccagcgat	gttctttctg	4020
accagtgttt	tttggagggt	ggctgagggt	tgggtcagg	tctggggccat	actagaagct	4080
gggatccctt	ctatagagca	cttgggtatg	cttgtatggt	cttggggcaa	gccagaccca	4140
agccctctta	tcccatttta	gaaagggttt	caatttggat	ccagccccag	gtctgcctta	4200
gctctgtatt	cttgggggtat	tttgttctgt	attggccctat	cttgactaac	aatgancctt	4260
ggatttgaaa	catatcatca	gaaacctcag	aagacaacat	tcttaaaactg	gctagagcct	4320
ggctctgaat	gatgaaaagg	agagactttt	gaagcaatat	gtaaaagatt	gagaaatgat	4380
ttgttggaat	tttctcaatt	ggagaaattt	ctttgatttg	ttggaaattt	ctttgattct	4440
ttctctatca	aagaaaatcg	ggacaaaact	aacaatagaa	agggaggaag	caagatactc	4500
agaaataaaa	tgcattcccc	tgtttcaact	taatgttcca	attcaggatt	ctaaggaatc	4560
cttgccagga	atgtcagact	caccttgata	gttggagtta	ctccattggg	gactcgatca	4620
aatacaggag	ttgaggcacc	tgcactgtaa	aatactgatt	agtctgatca	ttaggaatat	4680
cctgtatgcc	aggtagaaga	tacattgaac	agattgcatg	taggcattaa	attcattttg	4740
gggtattaca	tatagacaac	acatttccat	aagaaacata	aaactgtcag	atcgggtggaa	4800
tacttaaaag	cacttgaggg	tgttttagct	aaaaagctta	gttgagggga	atggaagaaa	4860
agatctggga	gggtgggttc	aaagaaggga	tcagactntc	ctaaagccct	caggaatctg	4920
ggctgggacc	acctacttaa	agataggatg	ggcagctggg	tgtgggtggc	cacgcctgta	4980
atcccagcac	ttcgggaggc	cgaagngggc	ggatcacctg	aggtcaggag	ttcagggccca	5040
gcctgaccaa	catggagaaa	cncgtctctc	actaaaaata	caaaatttagc	tgggtgtagt	5100
ggcgcatgcc	tgtaatcccc	gctactcggg	aggtctgaggc	aggggaatcg	cttgaacctg	5160
ggaggtngag	ggtgcccgtg	gccacgatcg	cgccattgca	ctccagcctg	ggcaacaaga	5220
gcgaactctc	caaaaaacaa	aaaaaaggat	gggttccata	tgggtgggtg	caagtgccca	5280
cctcctagca	agtcagcagg	ggccagaggc	ccttgtaagt	ggtgtctcgg	ggggatcaac	5340
tgagatggct	taagattttac	ctggatgcct	gctctgctct	ccccatctct	tccagggatc	5400
cacaaatgct	aaagagctgt	cttccaaggg	agtgaataat	tgggatgccca	atggatcccg	5460
agactttttg	gacagcctgg	gattctccac	cagagaagaa	ggggacttgg	gccagtttta	5520
tggcttccag	tggaggcatt	ttggggcaga	atacagagat	atggaatcag	gtgaggagat	5580
agaacaatgc	cttccatttc	cgggtgcccc	tcttagcacg	tgtttgtctc	gttgttttag	5640
ataaggtctg	ggggatgagt	caatgtcaca	ggagctgatg	tatagctttg	accttgtgag	5700
gggtgggtgc	aggttgaagc	cacaattaac	gcctactgaa	ggcggtttca	catctttttt	5760
tttttttttt	ttttaattat	tatactttta	gttttagggg	acatgtgcac	aatgtgcagg	5820
ttagttacat	atgtatacat	gtgccatgct	ggtgcgctgc	accactaact	caccatctag	5880
catcagggtat	atctcccaat	gctatccctc	ccccctctc	ccaccccaaca	acatccccag	5940
agtgtgatgt	tcccttccct	gtgtccatat	gttctcgttg	ttcgattccc	actatgagtg	6000
agaatatgog	gtgtttgggt	ttttgttctt	gcgatagttt	actgagaatg	atgatttcca	6060
tttcaccacg	tccctacaga	ggacatgaac	tcatactttt	ttatggctgc	atagtattcc	6120
atggtgtata	tgtgccacat	ttcttaaatc	cagtcattca	tgttggacat	ttgggttggg	6180
tccaagtctt	tgcctattgt	gaatagtgc	acaataaaca	tacgtgtgca	tgtgtcttta	6240
tagcagcatg	atttaatatg	cctttgggta	tatacccagt	aatgggatgg	ctgggtcaaa	6300
tgggtatttct	agttctagat	ccccgaggaa	tcgccacact	gacttccaca	atgggtgaac	6360
tagtttacag	tcccaccaac	agtgtcaaa	tgtcctatct	ctccacatcc	tctccagcac	6420
ctgttggttc	ctgacttttt	aatgattgct	attctaaactg	gtgtgagatg	gtatctcatt	6480
gtgggttttga	tttgcgtttc	tctgatggcc	agtgatgggtg	agcatttttt	catgtgtttt	6540
ttggctgcat	aaatgtcttc	ttttgagaag	tgtctgttca	tgtccttcgc	ccactttttg	6600
atgggggtgt	ttttttctta	taaaattgtt	tgagttcatt	gtagattctg	gatattagcc	6660
ctttgtcaga	tgagttaggt	gcaaaaatgt	tctcccatct	tgtgggttgc	ctgttcactc	6720

tgatggtagt	ttcttttgc	gtgcagaagc	tctttagttt	aattagatcc	catttgtcaa	6780
ttttggcttt	tggtgccatt	gcttttggca	taggcataaa	gtccttgccc	atgcctatgt	6840
cctgaatggt	aatgcctagg	ttttcttcta	gggtttttat	ggttttaggt	ctaacgttta	6900
agtctttaat	ccatcttgaa	ttgatttttg	tataagggtg	aaggaaggga	tccagtttca	6960
gctttttaca	tatggctagc	cagttttccc	agcaccattt	attacatagg	gaatcctttc	7020
ccatttgctt	gtttttctca	ggtttgcata	agatcagata	gttgtagata	tgcggcggtta	7080
tttctgaggg	ctctgttctg	ttccattgat	ctatgtgtct	gttttgggtac	cagtaccata	7140
ctgttttggt	tactgtagcc	ttgtagtata	gtttgaagtc	aggtagcgtg	atgcctccag	7200
ctttgttctt	ttggcttagg	attgacttgg	cgatgcgggc	tcttttttgg	ttccatatga	7260
actttaaagt	agttttttcc	aattctgtga	agaaagtcac	tggtagcttg	atggggatgg	7320
cattgaatct	ataaattacc	ttgggcagta	tggccatttt	cacgatattg	attcttcccta	7380
cccatgagca	tgggaatggc	ttccatttct	ttgtatcctc	ttttatttca	ttgagcagtg	7440
gtttgtagtt	ctccttgaag	aggcccttca	catccctttt	aagggtggatt	cctagggtatt	7500
ttattctctt	tgaagcaatt	gtgagtggaa	gttcaactcat	gatttggctc	tctgtttgtc	7560
tgttattggt	gtataagaat	gcttgtgatt	tttgcagatt	gattttatat	cctgagactt	7620
tgetgaagct	gottatcagc	ttaaggagat	tttgggctga	gacaatgggg	ttttctagat	7680
atacaatcat	gtcgtctgca	aacagggaca	atttgacttc	ctcttttccct	aattgaatac	7740
cctttatttt	cttctcctgc	ctaattgccc	tggccagaac	ttccaacact	atgttgaata	7800
ggagtgggtga	gagagggcat	cctgtctctg	tgccagtttt	caaagggaa	gcttccagtt	7860
tttgcccat	cactatgata	ttggctgtgg	ctttgtcata	gatagctctt	attattttga	7920
aatatgttcc	atcaatacct	aatttattga	gagtttttag	catgatgtgt	tgttgaattt	7980
tgtcaaaggc	tttttctgca	tctattgaga	taatcatgtg	gtttttgtct	ttggatctgt	8040
ttatatgctg	gattacattt	attgatttgc	gtatatgtga	ccagccttgc	atcctaggga	8100
tgaagcccac	atgatcatgg	tggataagct	ttttgatgtg	ctgctggatt	cggtttgcca	8160
gtattttatt	gaggattttt	gcataaatgt	tcatcaagga	tattgggtcta	aaattctctt	8220
ttttgggtgtg	tctctgcccc	gctttgggtat	caggatgatg	ttggcttcat	aaaatgagtt	8280
agggaggatt	ccctcttttt	ctatgtgattg	gaatagtttc	agaaggaatg	gtaccagttc	8340
ctctttgtac	ctctggagaa	ttcggctgtg	aatccatctg	gtcctggact	ctctttgggt	8400
ggtaagctat	tgattattgc	cacaatttca	gctcctgtta	ttgggtctatt	cagagattca	8460
acttcttcc	ggtttagtct	tgggagagtg	tatgtgtcaa	ggaattttatc	catttcttct	8520
agattttcta	gtttatttgc	gtagagggtg	ttgtagtaat	ctctgatggg	agtttgtatt	8580
tctgtgggat	cgggtgggtg	atccccctta	tcatttttcta	ttgogtctat	ttgatttctc	8640
tcttttctt	tattagtctt	gctagcggtc	tataaaattt	gttgatcctt	tcaaaaaacc	8700
agctcctgga	ttcatthaatt	ttttgaaggg	ttttttgtgt	ctctatttcc	ttcagttctg	8760
ctctgatttt	agttatttct	tgccttctgc	tagcttttga	atatgtttgc	tcttgccttt	8820
ctagtctctt	taattgtgat	gttaggggtg	caatttttga	tctttcctgc	tttctcttgt	8880
gggcatttag	tgctataaat	ttccctctac	acactgcttt	gaatgtgtcc	cagaggttct	8940
ggtatgttgt	gtctttgttc	ttgttgggtt	caaagaacat	ctttatttct	gccttcattt	9000
cgttatgtac	ccagtagtca	ttcaggagca	ggttgttcag	tttccatgta	gttgagcagt	9060
tttgagttag	attcttaatc	ctgagttcta	gtttgattgc	actgtgggtc	gagagatagt	9120
ttgttataat	ttctgttctt	ttacatttgc	tgaggagagc	tttacttcca	actatgtggg	9180
cggtttttga	ataggtgtgg	tgtgggtgctg	aaaaaaatgt	atattctgtt	gatttgggat	9240
ggagtctctg	agatgtctat	taggtctgct	tgggtgcagag	ctgagttcaa	ttcctgggta	9300
tccttgttga	ctttctgtct	cgttgatctg	tgtactgttg	acagtgggtg	ttaaagtctc	9360
ccattattaa	tgtgtggagt	ctaagtctct	ttgtagggtca	ctcagatgat	tggcacttac	9420
tgggcgcttg	gcactttcca	tactgtgtca	tggcagata	gctgcatggg	tgggtttcgt	9480
gctggggaa	gggaagttca	tgggtgggac	aaggacaaaa	tgccccatt	gctttgttgt	9540
ggcttttaac	ttcccttctga	ggctgagcca	cagcgtgctg	taggtggcgc	tgctgtgaag	9600
cgcagtacca	gggtcacact	ccactccag	ctctgcagag	gtggagaaag	aatgaaacat	9660
ctcactctg	gacttccact	ttcctgtcac	tgttgggtgc	acctcttact	ggatgtcaca	9720
gagcccagcc	cctcccacct	gtgcctagga	aaagcagatg	ccaccttgga	atgtgggggt	9780
tgtgtgtgca	atttactagc	tgggcagaga	ccagcaacct	ggagagcagg	tgtctcgtct	9840
aaggggacag	tcacatttca	cctccagcca	cctggaggaa	tttgggcctg	gtgatgtcag	9900
aattcttcaa	taaaagccta	aaatctatat	tttatgtgcg	gtcatgagat	ctgttaaatg	9960
ttagcaactt	caggaagttt	aaaaatgctg	tgtggacctc	gaataggcaa	gttcttaaa	10020
gcagaaagtg	gaatgctagt	ttccagggac	tggggaaacag	ggaggaatgg	ggagtccatg	10080
tttaaatggc	acagaggttt	tgttagggat	gacgaaaaag	ttcgggagat	ggtgatgggt	10140



atggagatgg	tgatgggtgat	ggagatgggtg	atgggtgatgg	tgatgggtgat	gggtgatgggt	10200
gatgggtgatg	gtgatgggtga	tggagatgggt	gatgggtgatg	gtgatgggaga	tgggtgatgggt	10260
gatgggtgatg	gtgatgggaga	tgggtgatgggt	gatggagatg	gtgatgggtga	tgggtgatgga	10320
gatgggtgatg	gtgatgggtga	tgggtgatgggt	gatgggtgatg	gtgatgggaga	tggagatgggt	10380
gatgggtgatg	gttgccctaac	atcaggaacg	tgccttaatgc	ttctgaattg	cacacaaaaa	10440
tggcaagttt	aatattatgt	gtactttatc	acaatgaaaa	aagctgctgc	gtgggccaag	10500
ttactttgtgc	aggtaatgtt	ctgcaggttg	ttgcctgcac	ctcagttgta	gggtgtccgt	10560
aggatgtgag	gccagtcccc	gggcttaatg	atgctttaaa	tccctgcctag	tattcaatta	10620
tttcttgtcg	cttaaaaggc	ctaataaaat	tatgggtctta	gtttacagtg	gtatgaatgc	10680
ttagctgttg	gatttttagta	ggaaagtctg	tccctttttg	tttttaattt	tgttttacag	10740
attcacagga	atTTTTTTTT	TTTTTTTTTT	TTTTTTTTTT	taatgcacag	aaagtttccc	10800
tggactctct	accagtttcc	cccagtgata	atatcttggg	taacatcctg	tatacattca	10860
cattggtgca	ttcctcagag	ttgtcagatt	ttgctagttt	tacgtgcact	tgtgtatgtg	10920
tgtatttgca	atTTTTagcac	gtgtagactc	ttgtaaccac	tacaatcaag	ttacagaact	10980
acactacca	ggttcatctt	tttaaaatct	ttgatgttac	cttttttggg	acagtgacca	11040
tgagaggact	ttcctcccaa	aatttttgana	actactgaac	cagaatatag	tctgacacta	11100
ataggtagaa	atTTAACCAA	aggagattat	gaagctctgc	acttgagtta	acaaaatcac	11160
ttctcagctt	ccagttccat	ctcagaagga	aggaaaaggg	attaaaaatc	cagagaccag	11220
aaaatgggag	caaagtanaa	ggtggtgtaa	tcattacaga	ggtttccctga	tgtttccaa	11280
tcagtcgtgt	gtngagctgc	taaactotaa	agtaatttta	ggtggaatgt	tggaaacatg	11340
ctgctgaggt	gatagaaagg	aatccatggg	cctctgttag	ttggaaagta	tatggaatac	11400
tatatctctac	ataagataca	anactctctg	tgagacaagg	ataaagtaga	ttttgtcagt	11460
gaaattgtga	caagaatcgc	tgatgggttt	agagcctaag	tttgcgagga	gcactggaag	11520
aaattaagat	tgttgagatt	ggaaagggtt	agctatgggg	gaacaggagg	agggtgactcc	11580
atgacagacc	aaatattcaa	aggactgtgt	agaagaggaa	aaagactttg	ttagggctcc	11640
agaggacaga	gccaggagtc	agacagggcc	ttgaactcaa	cccacngaga	tctgcaaact	11700
ttgcaggatg	caccagatgt	cttgtagcca	tgggtcaagg	ggggaccctg	ggtaagagac	11760
tgtaatatag	gacctctaag	gccatctcat	gacatgtgtg	attaatgtat	gtacctgtcc	11820
tctctttttg	acaattctac	agattattca	ggacagggag	ttgaccaact	gcaaagagtg	11880
attgacacca	tcaaaaccaa	ccctgacgac	agaagaatca	tcattgtgcgc	ttggaatcca	11940
agagggtgaa	agaaccccg	cgtcttcatt	tatactaacc	atactcttag	agggaagcaa	12000
tctgggtttg	tgacagaggca	ctgagggagg	caggaccctg	ggcaacttcc	cccagccaca	12060
tgggtgtgtg	acgttgggca	agtcacattt	tgcctgcactt	tcaccttcag	atcatgaggt	12120
tgggcccaga	ggattttttt	TTTTTTTTTT	TTTTTTgaga	cagagttttg	ctctgttgcc	12180
caggctggaa	tgcaacggcg	tgatcttggc	tcactgtaac	ctctgcctcc	tgggttcgag	12240
tgattctcct	gcctcagcct	ccaagtagct	gggattacag	catgtgccac	catgcttggc	12300
taattttgta	tttttagtag	agacgggttc	acatgttggg	caggctgggc	ttgactcctg	12360
acctcagat	gatctgcctt	gcctcagcct	cccaaccgag	tgatcttaag	ttgtgtatta	12420
tactcattct	tacacaaaaa	gggcttttaa	tgcctagaaa	ctacatgaag	atgttaacat	12480
tttaaatgga	agcagatgaa	gttccagctc	gctgccacct	cactaacatt	tttaacaatt	12540
atattgtaaa	attcaactct	accaggggtg	agagccaggt	gtgggtggctc	acacctgnaa	12600
ttccaacaac	tccagaggcc	aaggcgagag	gatcatttga	accacaggaa	tttgaggctg	12660
tagtgagtca	tgatcacgcc	attgcactcc	atcctgggca	acagagttag	acctgaata	12720
tttaaaaaac	acaacaacaa	caaaactcta	tcaggatata	ataagtactt	agagtgaat	12780
acttgcatct	gtaatataga	cttatttttt	TTTTTTTTg	gacacagtct	cacctgttg	12840
cccaggctgg	agtgacgtgg	tttgatctcc	gctcacggca	acctccatct	cccaggttca	12900
agtgaattcc	cattcctcag	ccccagagct	gggaccacag	gcgcgcgaat	ttttgtattt	12960
ttagcagaga	cggggtttca	ctatgttggc	caggctagtc	tcaaactcaa	gttggcctca	13020
agtgatctgc	ccacctgggc	gtcccagtg	tgggatttca	ggcatgagcc	actgtgcctg	13080
gccatgtaat	agagactttt	aatataggag	ggtgtaccag	aagcaccagt	ttcctgtggc	13140
aaacagaatt	attcctgctg	tatttgtaat	ntgggtgccac	gaggtagccc	agatcccttc	13200
agctctgatg	gaagagcatt	gcttcagccg	taaatggaca	cctgcagaaa	ccttgaccgc	13260
atggatagtc	tccctcagct	ccgtgccatc	gctgcagngg	ctgttatgga	catcactgca	13320
gcccagtggc	tctctctcct	ggtctccacc	atatgagttg	gcttctgttt	ctctcctgtt	13380
ttactttgcc	tttagctgtg	gtctttcaaa	ccaccatccc	tccttatctt	cctctgctgg	13440
ttcctcagat	cttctctctga	tggcgctgcc	tccatgccat	gccctctgcc	agttctatgt	13500
ggtgaacagt	gagctgtcct	gccagctgta	ccagagatcg	ggagacatgg	gcctcgggtg	13560

gcctttcaac	atcgccagct	acgcccctgct	cacgtacatg	attgggcaca	tcacggggcct	13620
gaaggtgggc	tgtctcggga	agggngactt	gccagcctac	cacatgagct	cttcagttct	13680
ctaataatggg	aaaacaaatt	gcagagttaa	gtctctgatt	agctttttaa	tttgatatgt	13740
gtaagtaaga	natgaaccag	cttttacttt	gaaacottcc	tnttctggaa	ggttttctgg	13800
ccctgnggta	tangcactaa	cagatctata	caggttggtt	gtgatacagc	ttctatggat	13860
cttctcaaaa	gctatgctga	ggttggggtat	ggtggctcat	gcctgtaate	ccagcacttt	13920
ggaagactga	gacaggagca	attgcttgag	gtctggagtt	caataccagc	ctgggcaaca	13980
taacaagatg	ctgttgctac	aaaaaaatgg	aaaagctaca	ctaaattatt	tttttaaaaa	14040
aagccttgcg	gtgtctgcat	attctaattgt	ttttaaatga	tgtttttaaag	aattgaaact	14100
aacatactgt	tctgctttct	cccggtttat	agccagggtga	ctttatacac	actttgggag	14160
atgcacatat	ttacctgaat	cacatcgagc	cactgaaaat	tcaggtaaga	attagatggt	14220
atacttttgg	gtttggtacc	ttctcttgat	aaaagggttg	ctgtggaaca	ggtatctgct	14280
caatgctgtg	tccaagataa	agatgactgc	tccaaatgtg	gggerttcagt	ttagggagaa	14340
gtgggtgggca	ggtgggcagg	acaaggcagg	catctgcctc	agcaaccatg	gcacttaact	14400
tgtcaggtgc	tgtgaggtag	taagcaccag	taccagagag	ggaagagcca	cattcaagcc	14460
aggggattgt	ccaaaaggng	gcattttaac	tcattttaac	ttgaaggaga	attgaagtgc	14520
aaatgttttt	ctttttcttt	ttttttgnag	atggagtctt	tctctgtcgg	ccaggctgga	14580
gtgtgncgtg	gtgcgatctc	agctcactgc	aacctccacc	tcccggttcc	aagcaattct	14640
tctgcctcag	cctcccagg	agctgggatt	acaggcacat	gccaccacac	ccagctaatt	14700
ttttgtatta	ttagtagaga	tggggtttct	tcatgttggt	caggctgac	tcaaaactct	14760
gacttcaagt	gtaccacctg	cctcagcttc	cgaaantttc	ggaattacag	gcataagcca	14820
ccacctgggc	cataaaatatt	ttttgttaat	tttacattaa	gtacaaatatt	taggtccaaa	14880
cttcaaaaagt	ctgttgaaat	ccctgaagtt	atagcagcca	acaattgata	tgaatggcca	14940
ataaaaaatgt	aagttcatct	gcttcatgag	ccttaaggaa	aaaaactcag	aaccagacac	15000
tttttagccc	cttccagggt	agatccagg	tttaaaagt	antcctttga	gggagtttgg	15060
ctgcttttga	gtggagggtga	cttcaggctt	attctctctg	gctctctgct	ctggctcattt	15120
ttagacatag	taatagggtg	tgaactgtct	tcacatccta	attgccactg	tctgttccatc	15180
ccaggaatcc	tggctttcat	ccctttctgt	tactgtcca	tgcattgcat	ctttccttct	15240
ttctgccagg	gaccagatgg	gttagggatt	gtgaattcaa	gtaaacgtag	agctactatg	15300
agttacagat	tgactgtgtt	cctgtcttta	ataaatttgc	caanagtgg	tataagaact	15360
tacacctgat	gaggcaccag	gctcctgatg	ctgtgtaatt	tcacaaaata	ccccctcact	15420
tcgatctgtg	caagagaaca	gctgggtgcn	ctccaatcat	gttacataac	ctacgcgaag	15480
gtatcgacag	gatcatactc	ctntaaaata	gaactttgtt	gatcacatcc	tgtgtacttg	15540
tttcanggag	atgaggagca	attacaacag	gtcgtacaat	tatggcaaan	taatggcctt	15600
attttgtttt	tagcttcagc	gagaacccag	acctttccca	aagctcagga	ttcttcgaaa	15660
agttgagaaa	attgatgact	tcaaagctga	agactttcag	attgaagggt	acaatccgca	15720
tccaactatt	aaaatggaaa	tggctgttta	gggtgcttcc	aaaggagctn	gaaggatatt	15780
gtcagctctt	aggggttggg	ctggatgccg	aggtaaaagt	tctttttgct	ctaaaagaan	15840
aaggaaactag	gtcaaaaatc	tgtccgtgac	ctatcagtta	ttaattttta	aggatgttgc	15900
cactggcaaa	tgtaaactgtg	ccagttcttt	ccataataaa	aggttttgag	ttaactcact	15960
gagggtatct	gacaatgctg	aggttatgaa	caaagtgagg	agaatgaaat	gtatgtgctc	16020
ttagcaaaaa	catgtatgtg	catttcaatc	ccacgtactt	ataaagaagg	ttggtgaatt	16080
tcacaagcta	tttttggaat	attttttagaa	tatttttaaga	atttcacaag	ctattccctc	16140
aaatctgang	gagctgagta	acaccatcga	tcatgatgta	gagtgtggtt	atgaacttna	16200
aanttatagt	tgttttatat	gttgcataaa	taaagaagtg	ttctgcattc	gtccacgctt	16260
tgttcattct	gtactgccac	ttatctgctc	agttccttcc	taaaatagat	taaaagaactc	16320
tccttaagta	aacatgtgct	gtattctggt	ttggatgcta	cttaaaagag	tatttttttag	16380
aaataatagt	gaatatattt	tgcctatatt	ttctcatatt	aactgcattc	tatcctcaaa	16440
atataatgac	catttaggat	agagtttttt	tttttttttt	ttaaactttt	ataaccttaa	16500
aggggtattt	taaaataatc	tatggactac	cattttgccc	tcattagctt	cagcatgggtg	16560
tgacttctct	aataatatgc	ttagattaag	caaggaaaag	atgcaaaacc	acttcggggt	16620
taatcagtga	aatatttttc	ccttcgttgc	ataccagata	cccccggtgt	tgcacgacta	16680
tttttattct	gctaatttat	gacaagtgtt	aaacagaaca	aggaattatt	ccaacaagtt	16740
atgcaacatg	ttgcttattt	tcaaattaca	gtttaatgtc	taggtgccag	cccttgatat	16800
agctattttt	gtaagaacat	cctcctggac	tttgggttag	ttaaatctaa	acttattttaa	16860
ggattaagta	ggataacgtg	cattgatttg	ctaaaagaat	caagtaataa	ttacttagct	16920
gattcctgag	ggtgggtatga	cttctagctg	aactcatctt	gatcggtagg	atttttttaa	16980

```

tccatttttg taaaactatt tccaagaaat ttttaagccct ttcacttcag aaagaaaaaa 17040
gttggtgggg ctgagcactt aattttcttg agcaggaagg agttttcttc aaacttcacc 17100
atctggagac tgggtgtttct ttacagattc ctcttctcatt tctgttgagt agccgggagc 17160
ctatcaaaga ccaaaaaaat gagtcctggt aacaaccacc tggaaacaaa acagatttta 17220
tgcatttatg ctgctccaag aaatgctttt acgtctaagg cagaggcaat taattaattt 17280
tttttttttt gacatggagt cactgtccgt tgcccaggct gcagtgcagt ggcgcaatct 17340
tggetcactg caacctccac ctcccagggt caagtgatc tcctgcctca gcctcccatg 17400
tagctgggat cacaggcacc tgccaccatg cccggctaatt tttttgtatt tttttagag 17460
acagggtttc accatgttgg ccaggctggt ctcaaacacc tgacctcaa tgatccacct 17520
gcctcagcct cccaaagtgt tgggattaca ggcgtaagcc accatgccc gccctgaatt 17580
aatattttta aaataagttt ggagactggt ggaaataata gggcagagga acatatttta 17640
ctggctactt gccagagtta gttaactcat caaactcttt gataatagtt tgacctctgt 17700
tgggtgaaat gagccatgat ctcttgaaca tgatcagaat aaatgcccc gccacacaat 17760
tgtagtccaa acttttttagg tcactaactt gctagatggt gccagggttt tttgcacaag 17820
gagtgc aaat gttaagatct ccactagtga ggaaaggcta gtattacaga agccttgtca 17880
gaggcaattg aacctccaag ccctggccct caggcctgag gattttgata cagacaaact 17940
gaagaaccgt ttgttagtgg atattgcaa caaacaggag tcaaagcttg gtgctccaca 18000
gtctagttca cgagacaggc gtggcagtggt ctggcagcat ctcttctcac aggggccctc 18060
aggcacagct taccttgagg ggcatgtagg aagcccgtg gatcatcac ggatacttga 18120
aatgctcatg caggtgggtca acatactcac acaccctagg aggagggaat cagatcgggg 18180
caatgatgcc tgaagtcaga ttattcacgt ggtgctaact taaagcagaa ggagcgagta 18240
ccactcaatt gacagtgttg gccaaaggctt agctgtgtta ccatgcgttt ctaggcaagt 18300
ccctaaacct ctgtgcctca ggtccttttt ttctaaaata tagcaatgtg aggtggggac 18360
tttgatgaca tgaacacacg aagtcctct gagaggtttt gtggtgcct ttaaaagggg 18420
tcaattcaga ctctgtaaat atccagaatt atttgggttc ctctgggtcaa aagtcagatg 18480
aatagattaa aatcaccaca ttttgtgatc tttttttcaa gaagcgtttg ttttttttca 18540
tatggctgca gcagctgcca ggggcttggg gtttttttgg caggtagggt tgggagg 18597

```

<210> 9

<211> 2500

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 128, 1464

<223> n = g or a

<221> misc\_feature

<222> 189

<223> n = t or g

<221> misc\_feature

<222> 524

<223> n = c or g

<221> misc\_feature

<222> 1399

<223> n = t or a

<221> misc\_feature

<222> 1636, 1738, 2259

<223> n = c or t

<400> 9

```

cccaggcgca gccaatggga agggctcgag gcatggcaca gccaatggga agggccgggg 60
caccaaagcc aatgggaagg gccgggagcg cgcggcgcg gagatttaaa ggctgctgga 120

```

105

```

gtgagggntc gcccggtgcac cctgtcccag ccgtcctgtc ctgggtgttc gctctgtctc 180
gctgcgcenc cactatgttc tccctccgtg tcccgctcgc gcccatcagc gaccgcgcgc 240
agctgcagct ctgcgcgctg aaggggctca gcttggtoga caaggagaac acgcccgcgg 300
ccctgagcgg gaccgcgctc ctggccagca agaccgcgag gaggatcttc caggagccca 360
cggagccgaa aactaaagca gctgcccccg gcgtggagga tgagccgctg ctgagagaaa 420
acccccgcgg ctttgtcatc ttccccatcg agtaccatga tatctggcag atgtataaga 480
aggcagaggc ttctttttgg accgcgcagg aggttgacct ctcaaggac attcagcact 540
gggaatccct gaaacccgag gagagatat ttatatccca tgttctggct ttctttgcag 600
caagcgatgg catagtaa at gaaaacttgg tggagcgatt tagccaagaa gttcagatta 660
cagaagcccg ctgtttctat ggcttccaaa ttgccatgga aaacatacat tctgaaatgt 720
atagtcttct tattgacact tacataaaa atcccaaaga aaggggaattt ctcttcaatg 780
ccattgaaac gatgccttgt gtcaagaaga aggcagactg ggcccttgccg tggattgggg 840
acaaagaggc tacctatggt gaacgtgttg tagcccttgc tgagtgaggaa ggcattttct 900
tttccggttc ttttgctgcg atattctggc tcaagaaacg aggactgatg cctggcctca 960
cattttctaa tgaacttatt agcagagatg agggtttaca ctgtgatttt gcttgccctga 1020
tgttcaaaac cctggtacac aaaccatcgg aggagagagt aagagaaata attatcaatg 1080
ctgttcggat agaacaggag ttctcactg aggccttgcc tgtgaagctc attgggatga 1140
attgactctt aatgaagcaa tacattgagt ttgtggcaga cagacttatg ctggaactgg 1200
gttttagcaa ggttttcaga gtagagaacc catttgactt tatggagaat atttactgg 1260
aaggaaagac taacttcttt gagaagagag taggcgagta tcagaggatg ggagtgatgt 1320
caagtccaac agagaattct tttaacctgg atgctgactt ctaaatgaac tgaagatgtg 1380
cccttacttg gctgatttnt tttttccatc tcataagaaa aatcagctga agtgttacca 1440
actagccaca ccatgaattg tccntaatgt tcattaacag catctttaaa actgtgtagc 1500
tacctcacia ccagtcctgt ctgtttatag tgctggtagt atcacctttt gccagaaggc 1560
ctggctggct gtgacttacc atagcagtga caatggcagt cttggcttta aagtgagggg 1620
tgacccttta gtgagnttag cacagcggga ttaaacagtc ctttaaccag cacagccagt 1680
taaaagatgc agcctcactg cttgaacgca gattttaatg tttacttaaa tataaacntg 1740
gcactttaca aacaaataaa cattgttttg tactcacggc ggcgataata gcttgattta 1800
tttggtttct acaccaata cattctcctg accactaatg ggagccaatt cacaattcac 1860
taagtgacta aagtaagtta aacttgtgta gactaagcat gtaattttta agttttatct 1920
taatgaatta aaatatgtgt taaccaactt taaagtcagt cctgtgtata cctagatatt 1980
agtcagttgg tgccagatag aagacagggt gtgtttttat cctgtggctt gtgtagtgtc 2040
ctgggattct ctgccccctc tgagtagagt gttgtgggat aaaggaatct ctcagggcaa 2100
ggagcttctt aagttaaatc actagaaatt taggggtgat ctgggccttc atatgtgtga 2160
gaagccggtt cattttatct ctcaactgtat ttctctcaac gtctggttga tgagaaaaaa 2220
ttcttgaaga gttttcatat gtgggagcta aggtagtant gtaaaatttc aagtcactct 2280
taaacaaaat gatccaccta agatcttgcc cctgttaagt ggtgaaatca actagaggtg 2340
gttctacaaa gttgttcatt ctagttttgt ttggtgtaag taggttgtgt gagttaattc 2400
atttatattt actatgtctg ttaaatacaga aattttttat tatctatgtt cttctagatt 2460
ttacctgtag ttcataaaaa aaaaaaaaaa aaaaaaaaaa 2500

```

<210> 10

<211> 1718

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 183, 1299

<223> n = g or a

<221> misc\_feature

<222> 483

<223> n = c or t

<221> misc\_feature

<222> 601

<223> n = g or c

<400> 10

atggggccttg	gggctggg	gccagacgct	aactcggatg	ctcccaggct	acgccttggc	60
catgaccggt	ggggcgcgc	gccccgcct	tcaccttcgg	cgcgcgcttc	cccacgcagc	120
agacgacgtg	cggccccggg	ccaggccacc	tggcgccgc	tcgcatgacc	gtgcgcggca	180
ccnacggcgc	ccccgcctac	tccatctacg	gcgcgccacg	ccgctcagcg	cccttctctca	240
ctccgggacc	tggtcaggac	ccccgggccc	ctggccaccc	caacgcgcgaa	ctgcgtccag	300
ggaggccccac	ctgggaaccc	cgcacctgaa	ccccgagtcc	ccctcggata	ccctaacacg	360
atattcggta	cccccatatc	cggatctcaa	atcccaaacc	ccgaaccac	ggggctttga	420
taaatcgtgg	ctcagactcc	ccactagtcc	caggacccca	tctcgggtac	ccaccaggct	480
ccnacgcagt	tetagcccc	cacacccttg	atccgccccg	caggcaggta	cttcccggag	540
cgagcgggga	acgcgacgta	ccccagtgcg	cctcggcaca	ccattgctcc	ccgaaactgg	600
ngtgtccagg	cggaacagca	gagcccaggt	cccgggcct	atacgggtgc	ctcgtctctg	660
ggtccgcgcg	tcacggcaaa	agtctccgcc	ccaacttgct	ccatctacgg	ccgcagagcg	720
gctggcagtt	tcttcgagga	cctcagcaag	gtcgtgagtc	caggggtcta	caagtcccgg	780
gccccccagt	tcacgattct	ggcgcggact	tgcctcccc	aagacaacac	tcggaagcca	840
gggccccgcg	cctacaacgt	ggatcagcac	cggaaagccc	gcggctggag	tttcgggatc	900
cggcactcgc	actacctggc	cccgtggtg	accgacgcg	acaactgacc	cgccaggcgg	960
gagcggcccc	acacgtgttt	gcttaaagtc	tgcgagtcgc	catcgtgtcc	gcctctctct	1020
ctctctctct	gcgcgtcctg	gcgcaaggcc	tggggtggag	ccacggctgg	ggcctgtctc	1080
caactccgaa	cccagcgggg	cggggccccga	gcgtcgggcg	aggccgggac	cccagcgtcg	1140
cgcgcgctcc	gaacgtcgag	accccaccga	gggcgggagg	gggactctcg	ggagccacag	1200
acgcccagaga	cccacgccgg	gcgggaccgg	ccagggatca	ccccgcgcga	cggccccggg	1260
ccccgacggc	ccggaagtcc	cgcgtgtccg	ggggcaccng	gggattggcc	ggggcgcggc	1320
gtgcaaggct	tcccgggggc	ggcgactgcc	gagctccgcc	ctccaggcgg	ccccaccgcg	1380
ctgccgtcct	ggggcgccgc	cgcgcgcgcg	ccggcagtgg	accgctgtgc	gcgaacctcg	1440
aacctctacg	tcccgacctg	cgggcgaggc	cgggtacctg	ggctgggata	cggagcaagc	1500
gggagagggc	agcgccctaa	gcaggtacgg	gcggggctca	agtcgcgagg	cggggaagcg	1560
ggaggcagac	acggacgagg	gcgacacaga	cacgggaccg	aggggcggac	accggagaga	1620
cacgggaaag	gggtcgggac	aggagcacgt	ggctcagaca	ccgacgccgg	gaggccgcag	1680
accccgagac	tgtcaggcat	ccccgcaggc	cggagcgc			1718

<210> 11

<211> 5847

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 124, 3346, 5024, 5484, 5650

<223> n = c or t

<221> misc\_feature

<222> 439, 1333, 1979, 2151, 2469, 2977, 4784, 5268, 5631, 5733

<223> n = g or a

<221> misc\_feature

<222> 1045

<223> nucleotide at position 1045 is c, or absent

<221> misc\_feature

<222> 1046

<223> nucleotide at position 1046 is t, or absent

<221> misc\_feature

<222> 2636, 5287

<223> n = c or g

<221> misc\_feature

<222> 3118

<223> n = g or t

<221> misc\_feature

<222> 3257, 4053

<223> n = a or c

<221> misc\_feature

<222> 5440

<223> n = t or a

<400> 11

gatattcggt	accccatatc	cggatctcaa	atcccaaacc	ccgaacccca	cggggctttg	60
ataaatcgtg	gctcagactc	cccactagtc	ccaggacccc	atctcgggta	cccaccaggc	120
tcnaccgcag	ttctagcccc	ccacaccctt	gatccgcccc	gcaggcaggt	acttcccggg	180
gcgagcgggg	aacgcgacgt	accccagtg	gcctcggcac	accattgctc	cccgaactg	240
gggtgtccag	gcggaacagc	agagcccagg	tgaggtcaga	acggcccata	ccagaactgt	300
gggccttccc	actcgagacc	ggggaccgcc	ctccgggagc	tgggaccacc	ctgcgcctgt	360
ccgcgagagc	ccactacccc	cgagccctgc	ctcctcccca	ggtcccgcgg	cctatacggg	420
gcccctgcctc	ttgggtccnc	gcgtcatcgg	caaagtctcc	gccccaaact	gtcccatcta	480
cggccgcaga	gcggctggca	gtttcttcca	ggacctcagc	aagggtggggg	aggggcccggg	540
gcggacgcag	ggggctccctg	gtccgcggca	gtggaggcgg	cagccagcac	cctctgccct	600
ctcgagacc	ccgggccccct	gcgcctatca	ggtcgtgagt	ccaggggtct	acaagtcccg	660
ggccccccag	ttcacgattc	tggcgcgagc	ttcgctcccc	caagacaaca	ctcggaagcc	720
agggcccgcg	gcctacaacg	tggatcaggt	ggcctggagc	ccagggtcaa	gggtcagagt	780
caggagagtg	gggagggcct	gaggtcggag	tgatgggata	agagtccccg	ggggtccagg	840
ggtcccggcg	cggagaggat	gccggccccg	cgaggtcagc	ggtgtctccg	ggcccgcagc	900
accggaagcc	ccgcggctgg	agtttcggga	tccggcactc	ggactacctg	gccccgctgg	960
tgaccgagcc	ggacaactga	cccgccaggc	gggagcggcc	ccacacgtgt	ttgcttaaag	1020
tctgcgagtc	cgcacgtgt	ccgcnnctct	ctctctctct	ctctgcgcgt	cctggcgcaa	1080
ggcctggggg	ggagccacgg	ctggggccgt	gtcccaactc	cgaacccagc	ggggcggggc	1140
ccgagcgtcg	ggcgaggccg	ggaccccagc	gctgcgcgcg	gtccgaacgt	cgagacccca	1200
ccgagggcgg	gagggggact	ctcgggagcc	acagacgccc	gagacccacg	ccgggcccga	1260
ccggccaggg	atcacccccg	ccgacggccc	cgggccccga	cggcccggaa	gttcgcgctg	1320
tccgggggca	ccnggggatt	ggccggggcg	cggcgtgcaa	ggcttcccgg	gggcggcgac	1380
tgccgagctc	cgccctccag	gcggccccac	cgcctgcccg	tccgggggcg	ccgcgcgccc	1440
gccgcgggca	gtggaccgct	gtgcgcgaac	cctgaaccct	acgggtcccga	cccgcggggc	1500
aggccgggta	cctgggctgg	gatccggagc	aagcgggcca	gggcagcgcc	ctaagcaggt	1560
acgggcccgg	ctcaagtgcg	gaggcggggg	agcgggaggg	agacacggac	gagggcgaca	1620
cagacacggg	accgaggggc	ggacaccgga	gagacacggg	aaaggggtcg	ggacaggagc	1680
acgtggctca	gacaccgacg	ccgggaggcc	gcagaccccg	gacgtgtcag	gcacccccgc	1740
aggcccggag	cgatggcagc	cttgatgacc	ccgggaaccg	gggccccacc	cgcgcctggg	1800
gacttctccg	gggaaggagg	ccagggactt	cccgaccctt	cgccagagcc	caagcagctc	1860
ccggagctga	tccgcatgaa	gcgagacgga	ggccgcctga	gcgaagcgga	catcaggggc	1920
ttcgtggccg	ctgtggtgaa	tgggagcgcg	cagggcgcac	agatcgggtg	gtggggagng	1980
ttgggcgttc	ctgaccccga	ctgggaggtc	agcccagagc	actttgggtc	cctgggggtg	2040
cgacggtgcc	ccactaccag	caccggcccc	aggggtgccc	accgctgtgg	gctgccaccc	2100
tcacgcgtac	ccccacatac	caggggccc	gctgatggcc	atccgacttc	ngggcatgga	2160
tctggaggag	acctcggtgc	tgacccaggc	cctggctcag	tccggacagc	agctggagtg	2220
gccagaggcc	tggcgccagc	agcttgtgga	caagcattcc	acaggggggtg	tgggtgacaa	2280
ggtcagcctg	gtcctcgcac	ctgccctggc	ggcatgtggc	tgcaagggtta	gaaaccacct	2340
cctttccaga	cgggagccta	taccgcacat	gcagcaacca	gtccatccac	aggcagctcc	2400
caacctcaag	cctggcccaa	agcctccaag	accctaccaa	ggcttctccc	cacctgctc	2460
cccagcacng	ttctccccac	cccggtcccc	agcacagcgc	ttggggcccc	tctgggtcca	2520

gaccaggccc	cttggagcag	gaaaaagatc	cactgatgga	attcagacce	ctttccctt	2580
gggtccccag	acagctcccc	caagggagga	gctgaggact	tccctccctc	tgcccnnaagc	2640
cttgtttccc	caaggagagg	taccaacctc	ctccctact	gacacttctc	aaccaagaaa	2700
acttcccttc	cattccctca	ccagctgggc	acccctatag	ctgcttaaat	actttccaaa	2760
tccagctgca	ctcctagcca	gggaaggtga	agggatgcac	agagggtggg	gaggggtact	2820
gtgcagggtg	ctcagcatcc	ctgaccacca	ggtgccaatg	atcagcggac	gtggtctggg	2880
gcacacagga	ggcaccttgg	ataagctgga	gtctattcct	ggattcaatg	tcctccagag	2940
cccagagcag	gtacggggcg	ccacggatca	gtcattnatc	caggttgatg	atccagaccc	3000
tggccagaat	cactaaaaga	tacttggtgg	atcattaggg	tactaatga	gaacactggt	3060
caaggttact	catgagtcac	tgggcctggg	ccgaaatcat	cagtggaaact	ttgattanga	3120
tcataaaatg	ggaagtgggt	caaaatcaca	gatggctggc	ggggcacggg	ggctcacacc	3180
tgtagtccca	gcacttgggg	agggccgaaga	gggcagatcc	cttgaaccca	ggagttcaaa	3240
accagcctgg	ataacanggc	aaaaccccat	ctctacaaaa	tagttcgctg	cgtgtggtgg	3300
tgcacgcctg	tggttccagc	tactcaggag	gctgaggcag	gaggancact	tgagcctggg	3360
aggtctaggc	tgcagtgage	cgggacgatg	ccactgcact	ccagcctggg	caacagagtg	3420
agaccctgtc	ccagcactct	gggaggcaga	ggagcccagt	tggagatcag	cctgggtaat	3480
atagtgaatg	ttgatctcta	caaaaaaag	aagaaaaaaa	aaagccgcgt	gtggtgggtg	3540
gcacctgtag	tcccagctac	tgggaagctg	aggtgggagg	atcacttaag	cccaggaggc	3600
agaggtcaca	attgagccga	attgtgccaa	ctgcactcca	gcctgggcaa	ccaggaaga	3660
ctcttcacag	aaaaaaaaaa	aaaaaaaaag	ctgctaagtc	atttaccata	agtcactgag	3720
aacaggggat	gtctgaccag	atgcaagtgc	tgtggacca	ggcgggctgc	tgtatcgtgg	3780
gtcagagtga	gcagctgggt	cctgcggacg	gaatcctata	tgcagccaga	gatgtgacag	3840
ccaccgtgga	cagcctgcca	ctcatcacag	gtgacctgac	tccatggcct	gcttctgcat	3900
gttcacaggc	tctgacctc	caaactcaag	tcaagggcct	ctcgttagga	gttaccctgc	3960
acctgaccgt	gtgccccct	acccccatca	caagatgcct	gaccaccacc	atgtgggtgg	4020
cctgatactc	aaccaccag	gtgctgccac	ccnataata	agggacttga	ccctcaatgc	4080
tcagggcccc	tgaccccaaa	gtcggcatcc	ccgaactctc	ccaagaagct	ccaggttctc	4140
cattgtctcc	aacctcctct	gcctccccc	aagcctccat	tctcagtaag	aaactcgtgg	4200
aggggctgtc	cgctctgggt	gtggacgtta	agttcggagg	ggccgcctgc	ttcccccaacc	4260
aggagcaggc	ccgggagctg	gcaaagacgc	tggtagcggg	tgtggccttt	ccttgggcaa	4320
gcgtcttgat	gcgggcccag	cctacccttc	acccctcccg	tccccactgc	ctccctccac	4380
tcagcagtc	tgcttaaccc	cagtcccacc	ctcttctgcc	cgaagtccct	ccctccttca	4440
cggctctcta	acctgctgtg	actttagagg	tcaaggctgg	cccggcctgg	acctggggaa	4500
gccccctgtg	gggttcctgc	cccagaccaa	gtacaagtcc	ctcctggccc	catggcgagg	4560
tgtcgcactt	cactcgtgtc	tcttccccac	cccaatcctt	ccctgacttc	atgtgggggg	4620
gctggcaacc	cacctgcag	caggggctgg	agttcgacca	agaaccggct	gcagaaggcc	4680
ccgccatggg	gggtccacgc	tgagcctcct	ctccgcagg	tggcgtggga	gccagcctag	4740
ggcttcgggt	cgcggcagcg	ctgaccgcca	tggacaagcc	cctnggtcgc	tgcgtgggcc	4800
acgccttggg	ggtggaggag	gcgtgctct	gcattggacg	cgcaggcccg	ccagacttaa	4860
gggacctggg	caccacgctc	ggtgaggggg	acgggggtgt	ggggagcgga	ggcggcgggg	4920
ggtgcttccc	gctggggccg	ccccgaccgg	gccgcgccta	agaccctcc	ccgcccgcag	4980
ggggcgccct	gctctggctc	agcggacacg	cggggactca	ggcncagggg	gctgcccggg	5040
tggccgcggc	gctggacgac	ggctcggccc	ttggccgctt	cgagcggatg	ctggcgggcg	5100
agggcggtga	tcccggtctg	acccgagccc	tgtgctcggg	aagtcccgc	gaacgcggcg	5160
agctgctgcc	tgcgcgccgg	gagcaggagg	agctgctggc	gcccgcagat	ggtgagcgtc	5220
gggggagtec	cgctccttcc	gcctccgcca	tcccttccc	ttcccgangc	cccggccctt	5280
cccagagccg	cgctctcag	ccctctccc	cgcaggcacc	gtggagctgg	tccggggcgt	5340
gcgcgtggcg	ctggtgctgc	acgagctcgg	ggcggggcgc	agccgcgctg	gggagccgct	5400
ccgcctgggg	tggggcgag	agctgctggt	cgagctgggn	cagaggctgc	gccgtgggtg	5460
gcgcgcggcc	cgccctgctg	gcncgcgacc	cccgccagc	tccggccgcg	cggcctctaa	5520
cagccctctg	ctctgcaggg	accccttggc	tccgcgtgca	ccgggacggc	cccgcgctca	5580
gcggcccgca	gagccgcgcc	ctgcaggagg	cgctcgtact	ctccgaccgc	ncgccattcg	5640
ccgccccctn	gcccttcgca	gagctcgttc	tgcgcgcgca	gcaataaagc	tcctttgcgg	5700
cgaaaccttg	tcaagtcttg	ggcgggagcg	ganggatcca	gggctgcgga	ggcggggggc	5760
gtctcgatga	acacgtgacc	cccggcgggc	tccgccttcc	gcgcacgcgc	tgagagcctg	5820
tcagcggctg	cgcccgtgtg	cgcctgc				5847



<210> 12  
 <211> 2158  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> 802, 1900  
 <223> n = c or t

<221> misc\_feature  
 <222> 1747  
 <223> n = t or g

<400> 12

gcgcggcata	acgacccagg	tgcggggcgc	gcggggcctg	agcgcgtggc	cgggtgccgca	60
ggagccgagc	atggagtacc	aggatgccgt	gcgcattgctc	aataccctgc	agaccaatgc	120
cggctacctg	gagcaggtga	agcgcacagc	gggtgaccct	cagacacagt	tggaagccat	180
ggaactgtac	ctggcacgga	gtgggctgca	ggtggaggac	ttggaccggc	tgaacatcat	240
ccacgtcact	gggacgaagg	gggaagggtc	cacctgtgcc	ttcacggaat	gtatcctccg	300
aagctatggc	ctgaagacgg	gattctttag	ctctccccac	ctgggtgcagg	ttcgggagcg	360
gatccgcata	aatgggcagc	ccatcagtc	tgagctcttc	accaagtact	tctggcgcc	420
ctaccaccgg	ctggaggaga	ccaaggatgg	cagctgtgtc	tccatgcccc	cctacttccg	480
cttcctgaca	ctcatggcct	tccacgtctt	cctccaagag	aaggtggacc	tggcagtggt	540
ggaggtgggc	attggcgggg	cttatgactg	caccaacatc	atcaggaagc	ctgtggtgtg	600
cggagtctcc	tctcttgga	togaccacac	cagcctcctg	ggggatacgg	tggagaagat	660
cgcattggcag	aaagggggca	tctttaagca	aggtgtccct	gccttcactg	tgctccaacc	720
tgaaggtccc	ctggcagtg	tgagggaccg	agcccagcag	atctcatgtc	ctctatacct	780
gtgtccgatg	ctggaggccc	tngaggaagg	ggggccgcgc	ctgacctggg	gcctggaggg	840
ggagcaccag	cgggtccaacg	ccgccttggc	cttgacagctg	gcccactgct	ggctgcagcg	900
gcaggaccgc	catggtgctg	gggagccaaa	ggcatccagg	ccagggctcc	tgtggcagct	960
gcccctggca	cctgtgttcc	agcccacatc	ccacatgcgg	ctcgggcttc	ggaacacgga	1020
gtggccgggc	cggacgcagg	tgctgcggcg	cgggcccttc	acctgggtacc	tggacggtgc	1080
gcacaccgcc	agcagcgcg	aggcctgcgt	cgctgtgttc	cgccaggcgc	tgcaggggcg	1140
cgagaggccg	agcgggtggc	ccgaggttcg	agtcttgctc	ttcaatgcta	ccggggaccg	1200
ggacccggcg	gcctgtctga	agctgctgca	gccttgccag	tttgactatg	ccgtcttctg	1260
ccctaacctg	acagaggtgt	catccacagg	caacgcagac	caacagaact	tcacagtgc	1320
actggaccag	gtcctgctcc	gctgcctgga	acaccagcag	cactggaacc	acctggacga	1380
agagcaggcc	agcccggacc	tctggagtgc	ccccagccca	gagcccgggtg	ggtccgcctc	1440
cctgcttctg	gcgccccacc	caccccacac	ctgcagtgcc	agctccctcg	tcttcagctg	1500
catttcacat	gccttgcaat	ggatcagcca	aggccgagac	cccatcttcc	agccacctag	1560
tccccaaaag	ggcctcctca	cccacctgt	ggctcacagt	ggggccagca	tactccgtga	1620
ggctgctgcc	atccatgtgc	tagtcactgg	cagcctgcac	ctgggtgggtg	gtgtcctgaa	1680
gctgctggag	cccgcactgt	cccagtagcc	aaggcccggg	ggtggaggtg	ggagcttccc	1740
acacctnctt	gcgttctccc	catgaactta	catactaggt	gccttttgtt	tttggctttc	1800
ctggtttctg	ctagactggc	ctaggggcca	gggcttttgg	atgggaggcc	gggagaggat	1860
gtctttttta	aggtctgtg	cccttgcttc	tccttcctcn	tggctgagat	agcagagggg	1920
ctccccgggt	ctctcactgt	tgcagtggcc	tggccgttca	gcctgtctcc	cccaacaccc	1980
cgcctgcctc	ctggctcagg	cccagcttat	tgtgtgcgct	gcctggccag	gccctgggtc	2040
ttgccatgtg	ctgggtggta	gatttcctcc	tcccagtgcc	ttctgggaag	ggagagggcc	2100
tctgcctggg	acactgcggg	acagaggggtg	gctggagtga	attaaagcct	ttgttttt	2158

<210> 13  
 <211> 2630  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> 1424  
 <223> n = c or a

<221> misc\_feature  
 <222> 1649, 2554  
 <223> n = a or g

<400> 13  
 ctgatttggtg tgggactggt ggagcccata gaatgtgcaa gaccagcctg ggtgaggagg 60  
 ctgtcttagt tgagaccaac gtggtgaata ggggtgagcca ggtgcagagg cctggagata 120  
 gaagatgggg aggactgggg ggctacagat agtccggggg gatggggcac caggaacaaa 180  
 ccgagggaca caggagagat gaggcacgga ggccagtagc atcagtcctt gcaggggtggg 240  
 ggaaggccag gacgctcggg aagggagtc tcatgacccc agctgtcccg gcagctctcc 300  
 ccacctgggtg caggttcggg agcggatccg catcaatggg cagcccatca gtctgagct 360  
 cttcaccaag taattctggc gctctacca cgggtggag gagaccaagg tgcgcagtc 420  
 aggagggctg gggggtgggt atggttgggg gtgctacgtg ttccagcacc ccatctcccc 480  
 agagaagggg ctgcatggct ctgggcccctg acatgtccct gtgccacagg atggcagctg 540  
 tgtctccatg cccccctact tccgcttccg gacactcatg gccttccacg tcttccctcca 600  
 agagaaggtg tgtgcccctc cctagaacc ctgcatctga ggccttggga acgggaacct 660  
 cagcaggcct gggggctccc tgcctccatg cggcctctgg gcaccctcat atccccctgc 720  
 atgcccctctg gtctttgaca ggtggacctg gcagtggtgg aggtgggcat tggcggggct 780  
 tatgactgca ccaacatcat caggtgagcg cagttgcttg ggacgagggg tggcagccag 840  
 gagcacagcc tcacctgcgc ctggtggctc agggcaggcc tcatggcctt ttcctcccc 900  
 gcaggaagcc tgtggtgtgc ggagtctcct ctcttggcat cgaccacacc agcctcctgg 960  
 gggatacggg ggagaagatc gcatggcaga aagggggcat ctttaaggtg accaggcaga 1020  
 ctgggggaag ggagagacat ggaaggcctg ggagtctacg ttttcatcct ggcttcactg 1080  
 tgtgactgga acaagttag tctcctctcc agactatttc cccattgaaa cgtgagggat 1140  
 ggctgggcat ggtggcttat atgcttgcaa tcccagcatt tcaggagggtc gaggttagag 1200  
 gatcacctga gatccggagt ttgagaccag cctgaccaat atggggaaac tctgtctcta 1260  
 ctaaaaatac aaaaattagc caggtgtggt ggtgtacgcc gttgcagtga gccagagattg 1320  
 agactgaggc aggagaatca ctcgaaaccg ggaggcagac gttgcagtga gccagagattg 1380  
 cgccacagca ctccagcctg ggtgacagag tgagacttca tctngaaaaa gaaaagaaaa 1440  
 gaaacatgag ggatgagaga cagtggtagc ccagaccag ggatgtgggg gccagagata 1500  
 ggagtgtgga ggatgctagg tagcccttcc tctctccttc tccctccac agcaagggtg 1560  
 cctgccttc actgtgctcc aacctgaagg tcccctggca gtgctgaggg accgagccca 1620  
 gcagatctca gtaagtctga ttggaatgng gcagcggcag ggtgggtttg tgtccctcct 1680  
 gtttgaggag gcaactgcac ctctggggcc tcagtttgcc catctgtgca gtgaggacgc 1740  
 tgggcccagc gccaggcctg ctggaacaca tctcagttct gggagcaggg cttggtggct 1800  
 gggggagggg agagatgcaa gggctgacgt ggtcagggag ggcctctgct gaccgcctcc 1860  
 tgccctgtct ccctagtgtc ctctatacct gtgtccgatg ctggaggccc tcgaggaagg 1920  
 ggggcccgcg ctgaccctgg gcctggaggg ggagcaccag cgggtccaacg ccgcttggc 1980  
 cttgcagctg gccactgct ggtgcagcg gcaggaccgc catggtgagt gggcagctga 2040  
 gtgggcaggc aggtgggtgg cacctgtgga gcctgcctag gaggggtccc gacacacttg 2100  
 gtctcacaca ccccgagggt gctggggagc caaaggcatc caggccaggg ctctgtggc 2160  
 agctgcccc ggcacctgtg ttccagccca catcccatc gcggctcggg gaggtagacc 2220  
 ttctgcccga gctgggacca ctgctgtgt ctgtgcccct tcagattttt ttttttttt 2280  
 ttttggttt ctgtttggga gataagagac aatttgaaat ggtgcttaag agaaaggact 2340  
 ctgatgtcag caaacctccc tgaccttgag ctcatgaact cttctgtgag ctgtcttctc 2400  
 atctgcccc gtagatgatg ataggagcca ctgcccagg ctgtgggtgg gattcgctga 2460  
 ggtgacatca ctaagggtgt gagtgcagag cctggccaat gtgggataaa gtgccagcca 2520  
 gtggttagct ctgtcactgt cactatcatc atctcagac cctgaggttc tggaggatgg 2580  
 tgatccagtc atctgcttct tgcctcccc aaagctttca gcaccagca 2630

<210> 14  
 <211> 2912

<212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> 263, 1037, 1139, 1955, 2017, 2037, 2189, 2309  
 <223> n = a or g

<221> misc\_feature  
 <222> 266  
 <223> n = g or t

<221> misc\_feature  
 <222> 527  
 <223> n = c or g

<221> misc\_feature  
 <222> 1217, 1647, 2282  
 <223> n = c or t

<400> 14  
 ggccctgcgt ccagtcctctt gattatTTTT atgcagtcac taaactatat acatgcatat 60  
 gtatagagaa agtttcaatg actaaaaata aggaaaccaa gaaagaactt ctctatctgc 120  
 catggggcca gggtcggggc accccagcag tgtgtgaaga gcagaagtcc agccaatgac 180  
 agactcttcc caaaacatca cttgcttatt tcgaaatcaa acaatttctc ataaatattt 240  
 tctcccaatg ctgggaagag ggnganggga aggaggtacg gaaactccat caatcatttg 300  
 aagggtctgc ttttatcaga ctgattttcc gtagtgggtt gtttgcagct tcctcctccc 360  
 cagttctggg cctcagctgt caaaaggatt tcaccatgca actttttcat gctagcagtt 420  
 ggggccaaaga agctaataga tgggaaaaag ctctgaaaac tccaggacga caaatagggtg 480  
 tcctcctcac agaaaaggat tactgcccc ccacccccag gtggccntca aatccgttct 540  
 ctaaacggca gcagctgttt agaggtgtcc accaggtgtc cgcagctttg tcctcctatc 600  
 cctgttcggg gcagagactg agggctgctg acccgaccg gctattttgg gacgtgctgc 660  
 ggggggccc ttggaggttg tgacgaaagg agtgctgtcc cgctaaggga ggggacgccc 720  
 cggagcgtac actcataaac ctggtcccga ggccctgccc tcaccaggat ggtgcacgcg 780  
 gaaggggagg ctttttagtg gcgcaagggg gctggctcgt ggtagtttg ggcggtgctg 840  
 attgatggcg ggcggggcgg ggcggtgctg attggcgggg ggggcggggg gaggcgacgc 900  
 tgcgctgatt ggctgggggc ggggcggggc gtctcccgcc cgggcctaga gcgctgcccg 960  
 gggcgccggg actatgtcgc gggcgccggg ccacctgcgc gccgctctat tcctggcagc 1020  
 ggcgtctgcg cgcggcntaa cgaccaggt cgcggcgcg cggggcttga gcgctggcc 1080  
 ggtgccgcag gagccgagca tggagtacca ggtatcaggc gggccagcgg gccagcggnc 1140  
 ctgggcgcga cgacacgttg gectgcgctg agccgcagaa catccgggct ccgctagccg 1200  
 agagggatat gggagcncct gactggggga ctgggggggc ggaacatcct ggaggctggg 1260  
 ggtggggaca gggaccagga agttgggccc gggcgccgg ggtgggaat tcggagacta 1320  
 tagcgtcccc gccccgggtt gggaagtggg aagtggcaca ggagctagga tccagaagcc 1380  
 cagaggtcca gcggtgcttc tggagttcca gtgatccccg agtctgaacc ggcagtgaga 1440  
 gtggggaaag agggtaggga agagactcag gaattcaggc ttgaaagatc caggagtatt 1500  
 gatctggggg tgggtgtcc aggattcaga agattgggga tccaagtgc tggatttggg 1560  
 ggagaggcag gaatcagggg tagtggaggg cccagaacc tggaaaatag aaaatgtccg 1620  
 cggcgctgt gtcaagagcc ggttgcncct gaccagacc tgatgccagt gaggcggtg 1680  
 gcaactggtt gatgagggtg gagcctccaa ccagccttga ggtcctgagg gtgggaggca 1740  
 cggaatatga ggcctaaggg gaatgaaata gcacccccac tcccacttcc attgtgaacc 1800  
 ctctgaagc cgtacctacc tgccttctct gctgagtgc cctggcaca cccctcctcc 1860  
 ctctgagttg ctctctgtg ggttggaaat tggaaaccca gagtcatgag ggttgggggtg 1920  
 gagcttcggg gaactccaga attcgaatac ccanccttc tgtagttctg gccccgctct 1980  
 ggcagggagc aatatagcaa tggaccccat tggaganaat gaggggcaaag gcccagnagt 2040  
 gaagtccggg gagcctgggc aggaagcaag gctagcccg tagtcatgcc accttctttg 2100  
 tgtagcactc cctgggtggg gctgaactgc ccagactcc catttttgcc agagctggaa 2160

agatgccata	ctctctgttg	cttaacctnc	aggctaggct	aacagtgtg	gcatggcagg	2220
cgggcctggg	actggccttg	ttgcctggc	ttggccactg	gtctgctggc	tgtctctgtg	2280
ontgtggacc	ctgagtgage	cttaacctnc	tatctgggca	ctgtgggtgc	caggatgccg	2340
tgcgcatgct	caataacctg	cagaccaatg	ccggctacct	ggagcagggt	aagcgccagc	2400
ggggtgaacc	tcagacacag	ttggaagcca	tggaaactgt	cctggcacgg	agtgggctgc	2460
aggtaaggta	gagagggcct	gtgaccacct	cccaccccca	tttgtgattc	ccgtagctga	2520
ggcagggacc	ttgtctgtct	gtcccagggt	gaggacttgg	accggctgaa	catcatccac	2580
gtcactggga	cgaaggggaa	ggtgaggggc	aggaccctgg	ggtagggggg	ctattaagtg	2640
gctggtggag	tagagcctgc	ccagacaatc	ccttttcttt	caagggctcc	acctgtgctt	2700
tcaoggaatg	tatctccga	agctatggcc	tgaagacggg	attctttagg	tactggcttg	2760
tggggggatg	tgggtgtctg	gtcccaatgg	accctggggg	gctatggaac	cagccagtgc	2820
ttcaggacca	gggtcacccc	caggaggtca	gctgcatgtc	tctctgcccc	gtgtttattc	2880
attcaataaa	cattcagtta	gcacttacca	ta			2912

<210> 15

<211> 2196

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic construct

<221> misc\_feature

<222> 1784

<223> n = a or g

<221> misc\_feature

<222> 464

<223> n = g or t

<221> misc\_feature

<222> 120, 519, 668, 1059, 1308

<223> n = c or t

<221> misc\_feature

<222> 1289

<223> n = c or a

<400> 15

aattccggag	ccatggtgaa	cgaagccaga	ggaaacagca	gcctcaaccc	ctgcttggag	60
ggcagtgcca	gcagtggcag	tgagagctcc	aaagatagtt	cgagatgttc	caccccgggn	120
ctggaccctg	agcggcatga	gagactccgg	gagaagatga	ggcggcgatt	ggaatctggt	180
gacaagtggg	tctccctgga	attcttccct	cctcgaactg	ctgagggagc	tgtcaatctc	240
atctcaagg	ttgaccggat	ggcagcagg	ggccccctct	acatagacgt	gacctggcac	300
ccagcagggt	acctggctc	agacaaggag	acctcctcca	tgatgategc	cagcaccgcc	360
gtgaactact	gtggcctgga	gaccatcctg	cacatgacct	gctgccgtca	gcgcctggag	420
gagatcacgg	gccatctgca	caaagctaag	cagctggggc	tgangaacat	catggcgctg	480
cggggagacc	caataggtag	ccagtgggaa	gaggaggang	gaggcttcaa	ctacgcagtg	540
gacctggtag	agcacatccg	aagttagtct	ggtgactact	ttgacatctg	tgtggcagg	600
taccccaaag	gccaccccca	agcagggagc	tttgaggctg	acctgaagca	cttgaaggag	660
aaggtgtntg	cgggagccga	tttcatcctc	acgcagcttt	tctttgaggc	tgacacattc	720
ttccgctttg	tgaaggcatg	caccgacatg	ggcatcactt	gccccatcgt	ccccgggatc	780
tttcccatcc	agggctacca	ctcccttcgg	cagcttgtga	agctgtccaa	gctggagggtg	840
ccacaggaga	tcaaggacgt	gattgagcca	atcaaagaca	acgatgctgc	catccgcaac	900
tatggcatcg	agctggccgt	gagcctgtgc	caggagcttc	tggccagtg	cttggtgcca	960
ggcctccact	tctacaccct	caaccgcgag	atggctacca	cagagggtgt	gaagcgctg	1020
gggatgtgga	ctgaggaccc	caggcgctcc	ctaccctgng	ctctcagtg	ccaccccaag	1080

cgccgagagg	aagatgtacg	tcccatcttc	tgggctcca	gaccaaagag	ttacatctac	1140
cgtaccag	agtgggacga	gttccctaac	ggccgctggg	gcaattcttc	ttccctgccc	1200
tttggggagc	tgaaggacta	ctacctcttc	tacctgaaga	gcaagtcctc	caaggaggag	1260
ctgctgaaga	tgtgggggga	ggagctganc	agtgaagcaa	gtgtcttnga	agtctttggt	1320
ctttacctct	cgggagaaac	aaaccggaat	ggtcacaaag	tgacttgctt	gccttgggaa	1380
gatgagcccc	tggcggtga	gaccagcctg	ctgaaggagg	agctgctgct	ggtgaaccgc	1440
cagggcatcc	tcaccatcaa	ctcacagccc	aacatcaacg	ggaagccgtc	ctccgacccc	1500
atcgtgggct	ggggccccag	cgggggctat	gtcttccaga	aggcctactt	agagtttttc	1560
acttcccgcg	agacagcgga	agcacttctg	caagtgtctga	agaagtacga	gctccggggt	1620
aattaccacc	ttgtcaatgt	gaagggtgaa	aacatcacca	atgcccctga	actgcagccg	1680
aatgctgtca	cttggggcat	cttccctggg	cgagagatca	tccagcccac	cgtagtggat	1740
cccgtcagct	tcatgttctg	gaaggacgag	gcctttgccc	tgtngattga	gcggtgggga	1800
aagctgtatg	aggaggagtc	cccgccccgc	accatcatcc	agtacatcca	cgacaactac	1860
ttcctgggtca	acctgggtgga	caatgacttc	ccactggaca	actgcctctg	gcagggtggtg	1920
gaagacacat	tggagcttct	caacaggccc	accagaatg	cgagagaaac	ggaggctcca	1980
tgacctgctg	tctgaagccc	ctgctgttga	gccactcctg	tcccgccttc	ctctccaca	2040
gtgctgcttc	tcttgggaac	tccactctcc	ttcgtgtctc	tcccaccccg	gcctccactc	2100
ccccacctga	caatggcagc	tagactggag	tgaggcttcc	aggctcttcc	tggacctgag	2160
tgggccccac	atgggaacct	agtactctct	gctcta			2196

<210> 16

<211> 1137

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> 575, 648

<223> n = t or c

<221> misc\_feature

<222> 771

<223> n = g or c

<221> misc\_feature

<222> 883

<223> n = g or a

<221> misc\_feature

<222> 942

<223> nucleotide at position 942 is c, or absent

<221> misc\_feature

<222> 1052

<223> n = a or c

<400> 16

gaattcaaac	catggtttac	taaactccaa	agctggagcc	cttctacagt	ctcaggatct	60
agaacaggga	ttattactat	ctctgctggt	gacatgagga	aactgtgggt	cagggaggtc	120
aagtgcctg	ccaaagcttg	tacacatgga	aagtagtaga	accaggatgc	aaacacattt	180
ctttaccacc	aacaccaata	tctattttgc	caacaaaaca	atgagggggc	ctgagtaaata	240
aatctcaacg	gttaactcca	ccctccaatt	gagatacttt	tttttttttt	ttttttttga	300
gacaggggtct	ggctctctgt	cacccaggct	ggaatgcagt	ggtgccttca	gcttcccaag	360
tagctaggac	tacaggccac	atgccaccat	gccagctaa	tttttgtatt	ttttgtagaa	420
acagggtttt	gccatattgc	caaggctggt	ctcaaactcc	tgggctcaag	cagtcctcct	480
gcctcagcct	cctaaagtaa	gagaagttgg	aaggaaaatg	ggtgaaaata	aagaagttct	540
cagttatact	gcagcttggt	catgcctcct	gcctngggat	gccgcagtg	ctgccccagc	600

cctgcccttt	cagcctcagc	ccttccctca	gtgaaggaga	gaaaaagnga	tttaacaaaag	660
tgaggactgt	cagcccttgg	accttggacc	tttgagatct	catgaccac	ccctcagtgt	720
gtccaccagt	gagagtgggt	cctaagggag	agtgtgaagc	acacgtggca	ntgtcttaca	780
ccacacctgc	tgagtccaaa	ccatgggagg	ctcctctcct	agaccctgca	tctgaaagc	840
tgcgtacctg	agagctgagg	tctggctgca	gggacacacc	canggggagg	agctgcaatc	900
gtgtctgggg	ccccagccag	gctggccgga	gctcctgttt	cncgctgctc	tgtgcctgc	960
ccggggtacc	aacatggccc	agaagcgtcc	tgctgcacc	ctgaagcctg	agtgtgtcca	1020
gcagctgctg	gtttgtctcc	aggaggccaa	gnagtcagcc	tactgcccct	acagtcactt	1080
tctgtggggg	gctgcctgc	tcaccagga	ggggagaatc	ttcaaaggta	aaggtgg	1137